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FIRST HISTORY OF AFSWP 1947 - 1954

VOLUME 6 - 1953, CHAPTER 3 - HEADQUARTERS

SECTION 1 OF 14 SECTIONS

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DATE: 10/3/94

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HISTORY OF AFSWP

VOLUME VI - 1953

CHAPTER 3 - HEADQUARTERS

SECTION 1 - GENERAL

TECHNICAL LIBRARY DIVISION
of the
DEFENSE NUCLEAR
AGENCY
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CHAPTER 3. HEADQUARTERS

SECTION 1 - GENERAL

3-1

3-1-1. Total Number of Personnel.

The military strength of Headquarters, AFSWP, increased during the year 1953 from a total of 154 at the beginning of the year to a total of 166 at midyear and a total of 167 at the end of the year. These figures show a total increase of about 8½% for the whole year. The principal increase (of the total of 13) occurred in the number of Army enlisted men, which increased from 22 to 31. The largest decrease occurred in the number of Army Officers, which decreased from 48 to 42 during the year. (All these figures applied to the number of military personnel actually on duty at Headquarters, AFSWP, excluding officers and enlisted personnel who were carried on the rolls of Headquarters, AFSWP, but were stationed elsewhere, principally at Kansas City.)

The civilian strength, of personnel actually working at the Headquarters, remained practically stationary throughout the year, with 95 enrolled at the beginning of the year, 96 at midyear, and 96 again at the end of the year.

The combined military and civilian assigned strength, of personnel actually on duty at the Headquarters, increased from 249 as of 31 December 1952 to 263 as of 31 December 1953. If all the assigned personnel detached elsewhere were added, the figures would be: 273 as of the end of 1952 and 280 as of the end of 1953.

The tabulation which follows shows the totals of military

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personnel of each of the three services, and of civilians, at the end of each half of the year 1953 compared with the corresponding figures for the end of 1952, and compared with the corresponding authorized strengths at the end of the year 1953.

MILITARY AND CIVILIAN PERSONNEL, HEADQUARTERS, AFSWP

		Assigned Personnel			Auth. Strength
		31 Dec 52	30 Jun 53	31 Dec 53	31 Dec 53
Officers: (and WO)	Army	48[1]	51[5]	42[5]	48
	Navy	25	30	31	33
	Air Force	32[2]	31[6]	34[6]	36
	Total	105	112	107	117
Enlisted:	Army	22[3]	29[7]	31[7]	20
	Navy	13	11	13	11
	Air Force	14	14	16	17
	Total	49	54	60	48
Civilians:*		95[4]	96[4]	96[8]	98[9]
		249	262	263	263

* Occasional part-time employees are not included.

1/ Does not include 6 Army Officers: 3 at Kansas City, 1 at Aberdeen Proving Ground, 1 at Naval Ordnance Laboratory, and 1 at Rochester, N. Y.

2/ Does not include 2 Air Force Officers at Kansas City.

3/ Does not include 4 enlisted men: 2 at MLC, 1 at Aberdeen Proving Ground, and 1 at Office of Guided Missiles.

4/ Does not include 12 civilians at Kansas City.

5/ Does not include 2 Army Officers at Kansas City.

6/ Does not include 1 Air Force Officer at Kansas City.

7/ Does not include 3 enlisted men: 2 at Military Liaison Committee, and 1 at Office of Guided Missiles.

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8/ Does not include 11 civilians at Kansas City.

9/ Does not include 14 civilians at Kansas City.

From the figures in this tabulation it is shown that the proportional representation of the services at the end of the year 1953, at Headquarters, AFSWP, was as follows: Army, 43%; Navy 27%; Air Force, 30%. For officers alone, the percentages were: Army, 39%; Navy, 29%; Air Force, 32%. These figures may be compared with the following percentages as of the end of the preceding year, 31 December 1952; for officers and enlisted combined: Army, 45%; Navy, 25%; Air Force, 30%; and for officers only: Army, 46%; Navy, 24%; Air Force, 30%. There was very little change during the year in the proportional representation as a whole - for officers and enlisted combined; but the changes in percentages for officers only was greater: for the Army, a decrease from 46% to 39%; for the Navy, an increase from 24% to 29%; for the Air Force, an increase from 30% to 32%.

The table which follows shows the numbers of personnel, of the Army, the Navy, and the Air Force, both officers and enlisted, and the civilians, both at Headquarters and in the field, as of 31 December 1953; it also shows the authorized strength in each category as of the same date.

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TOTAL PERSONNEL, AFSWP, 31 DECEMBER 1953

		HQ, AFSWP	FIELD FORCES (SB, FC, and Sites)	TOTAL*	TOTAL AUTHORIZED
Officers:	Army	42	487	531	524
	Navy	31	363	394	385
	Air Force	34	700	735	849
	Total	107	1,550	1,660	1,758
Enlisted:	Army	31	2,843	2,877	2,295
	Navy	13	1,301	1,314	1,330
	Air Force	16	2,963	2,979	2,533
	Total	60	7,107	7,170	6,158
Civilians:**		96	1,619	1,726	1,778
		263	10,276	10,556	9,694

* The figures in this column include also: 2 Army Officers, 1 Air Force Officer, 3 Army enlisted men, and 11 civilians, all carried on the rolls of Headquarters, AFSWP, but stationed elsewhere, as described in the footnotes to the tabulation headed "Military and Civilian Personnel, Headquarters, AFSWP".

** Occasional part-time employees are not included. The "Total Authorized" (in last column) includes 14 civilians at Kansas City.

Comparison of the figures in this table with those in the corresponding table for the end of the year 1952 (see Vol. V, par. 3-1-1) shows that there was a decrease in the field during 1953 in every single category except only in the number of Army enlisted personnel, which increased from 2,387 to 2,843, or about 19%. Every figure in the total column, except only the number of Army enlisted personnel, likewise decreased. The total personnel of the entire Project decreased from 11,206 to 10,556, or about 6%, but the total personnel of the Project, other than the Army enlisted personnel, decreased about 13%.

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The increase in the number of Army personnel in the field may be attributed principally to the increased number of Army units in training at the end of the year 1953. The general decreases in the numbers of personnel from the other services may probably be attributed, in part, to the deployment of Navy Special Weapons Units from AFSWP to Norfolk and to San Diego, and, in part, to the fact that parts of the service programs for trained atomic energy personnel were nearing completion.

The next table shows the percentage participation of the services, in the field forces of the AFSWP, at the beginning and the end of the year 1953, for officers, enlisted, and total military personnel:

PERCENTAGE PARTICIPATION OF THE SERVICES

FIELD FORCES OF AFSWP

(Field Command, Sandia Base and Sites)

	Officers		Enlisted		Total	
	End of 1952	End of 1953	End of 1952	End of 1953	End of 1952	End of 1953
Army	28.6	31.4	32.7	40.0	31.9	38.5
Navy	29.0	23.4	19.8	18.3	21.7	19.2
Air Force	42.4	45.2	47.5	41.7	46.4	42.3
	100.0	100.0	100.0	100.0	100.0	100.0

As was to be expected from the increase in the Army enlisted personnel during the year, the percentage participation of the Army showed an increase - about 6½ percentage points; this was accompanied by compensating decreases in the participation of both the Navy and the Air Force. The effect was to produce a somewhat greater departure from the theoretical

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percentages (50% Air Force, 30% Army, and 20% Navy) which had been regarded early in the history of the AFSWP as properly reflecting the primary interests of the respective services. (See Vol. I, Appendix to Chap. 2, "Charter" of 18 July 1947, par. 4, "Participation"; also, "Brochure", July 1950, p.6; also, Vol. V, par. 3-1-1.)

Examination of the figures representing the authorized strengths at the end of the year 1953 indicates a somewhat similar departure from the original theoretical figures, insofar as the enlisted personnel and the total personnel are concerned. This is shown in the following table:

AUTHORIZED PERCENTAGE PARTICIPATION OF THE SERVICES

FIELD FORCES OF AFSWP

(Field Command, Sandia Base and Sites)
At End of 1953

	Officers	Enlisted	Total	Original Theoretical
Army	29.8	37.3	35.6	30.0
Navy	21.9	21.6	21.7	20.0
Air Force	48.3	41.1	42.7	50.0
	100.0	100.0	100.0	100.0

This table shows, on the other hand, that the authorized officer strength at the end of the year was extremely close, for each of the three services, to the original theoretical percentage, with a maximum departure in any one case of less than two percentage points.

3-1-2. Location.

The Headquarters of the AFSWP remained throughout the year 1953 in the location to which it moved on 29 August 1949, on the first

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floor, B ring, off corridor 6, in the Pentagon. During the year 1953, no additional space was assigned to the Headquarters, which had occupied a total of about 26,400 sq. ft. (net) since about the middle of May 1952. The need for additional space became apparent during the year 1953 and consideration was given to the possibilities of its acquisition, but the decision was made by the Chief of Staff, in line with the economy measures being instituted by the new Republican administration, that the organization must continue as best it could in the space already occupied. The room numbers of the headquarters offices continued to include, as at the end of the year 1952, Nos. 1B656 to 1B699-C.

(Shortly after the end of the year, in February 1954, serious efforts were instituted to obtain further space, ultimately resulting in the assignment of an additional floor area of about 2,000 sq. ft. (net), or about 2,200 sq. ft. including occupied corridors or halls. This extension will be recorded in the next volume of this history.)

Some rearrangements of space and moving of various units or offices, within the limits of the headquarters area, were effected during 1953, but none of these was of a major character.

3-1-3. Organization.

a. At Headquarters.

The over-all organizational structure of Headquarters, AFSWP, remained substantially unchanged throughout the year 1953. Some important changes occurred during the year, but these did not materially affect the frame of the organization. These changes included the following:

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(1) When Major General (then Brigadier General) A. R. Luedecke, USAF, succeeded Major General H. B. Loper, USA, as Chief of AFSWP, on 12 June 1953, there was no longer any Deputy Chief from the Air Force, but a Deputy Chief from the Army was substituted, instead. This position was filled by Brigadier General L. K. Tarrant, USA. Also, official designation of the two Deputy Chiefs as "Army" and "Navy" was abandoned.

(2) A new technical division, the Special Field Projects Division, was established on 5 January 1953, taking over the functions and personnel of the WIGWAM Planning Group which had been formed in December 1952 to carry out the planning and preparations for the projected deep underwater test. The new division was established, technically, under the Deputy Chief of Staff, Technical Services, and brought the number of the technical divisions, temporarily, up to five. Actually, the new division was directed by Rear Admiral John Sylvester, USN.

(3) The Weapons Defense Division was discontinued as of 1 April 1953, and its residual functions were reassigned, in part to the Operations and Training Division, in part to the Weapons Effects Division. Most of its personnel were similarly reassigned. The number of technical divisions was thus reduced again to four.

(4) The requirements functions of the Plans and Requirements Division were ordered transferred to the Logistics Division and the former division was redesignated the Plans Division, effective 20 April 1953 (by General Order No. 8, Hq., AFSWP, 20 April 1953). The transfer of functions was actually accomplished on 17 June 1953.

All these changes will be described in greater detail

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in other sections of this chapter of the History.

New organization charts of Headquarters, AFSWP, were published with dates of 5 January, 1 July, and 15 November 1953 (see Appendix). No new edition of the booklet, "Organization and Functions, Headquarters, Armed Forces Special Weapons Project, Washington, D. C.", was issued in 1953, following the edition dated August 1952, but a new edition came out shortly after the end of the year (dated January 1954). The changes in the definitions of the functions of the various components of the executive office will be described in the next section of this chapter (see par. 3-2-5). The changes in organization and functions of the various other units of the headquarters, during 1953, will be described in the historical records of those units, hereinafter.

b. In the Field.

Changes in the field organizations of AFSWP will be described in Chapters 4 and 5, hereinafter, the chapters which contain, respectively, the history of Field Command and the history of the Sites.

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FIRST HISTORY OF AFSWP 1947 - 1954

VOLUME 6 - 1953, CHAPTER 3 - HEADQUARTERS

SECTION 2 OF 14 SECTIONS

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HISTORY OF AFSWP

VOLUME VI - 1953

CHAPTER 3 - HEADQUARTERS

SECTION 2 - EXECUTIVE OFFICE

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CHAPTER 3 - HEADQUARTERS

SECTION 2 - EXECUTIVE OFFICE

3-2

3-2-1. The Chief and the Deputy Chiefs.

Major General Herbert B. Loper, USA, who had served as Chief of the Armed Forces Special Weapons Project since 23 January 1951, continued to serve as Chief until he was stricken with a heart attack and hospitalized on 17 January 1953. Although he made an excellent recovery, he was forced to retire and his retirement became effective on 30 June 1953. (Preparatory to his retirement, he was officially transferred to Walter Reed Hospital on 5 June 1953.) General Loper's service as observer on the Military Liaison Committee (as an individual, see Vol. V, par. 3-2-1) and as Associate Member of the Committee on Atomic Energy, of the Research and Development Board, also ceased upon his retirement.

Major General (then Brig. Gen.) Alvin R. Luedecke, USAF, assumed command of AFSWP, as Acting Chief, when General Loper became ill; he became Chief, AFSWP, on 12 June 1953, under the authority of Special Orders Number 114, Department of the Air Force, dated 12 June 1953. On the same date he became also, automatically, Commander of the 1090th Special Reporting Wing. General Luedecke's assumption of command of the Project and of the duties as Chief thereof, was announced by General Order No. 13, Hq., AFSWP, dated 12 June 1953. General Luedecke was promoted to Major General on 29 June 1953. He continued to serve as Chief, AFSWP, throughout the rest of the year.

When General Luedecke became Chief of AFSWP, he succeeded

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General Loper both as observer on the Military Liaison Committee and as Associate Member of the Committee on Atomic Energy, of the Research and Development Board; General Luedecke was appointed to these positions only unofficially, without official action, but he assumed the duties and attended the meetings of the committees.

The Committee on Atomic Energy of the Research and Development Board, and the Board of which it was a subsidiary, were abolished when the Department of Defense was reorganized under Reorganization Plan No. 6, of 1953, which became effective in July 1953 (see par. 1-2j); the establishment of the Coordinating Committee on Atomic Energy, under the Assistant Secretary (Research and Development) of the Office of the Secretary of Defense, which became what might be called the successor to the Committee on Atomic Energy of the Research and Development Board, was begun late in 1953, but the new committee was not fully organized until January 1954 (Ref. 38, Department of Defense Directives No. 5128.7, dated 12 November 1953, and No. 5128.18, dated 6 January 1954).

Brigadier General Legare Kilgore Tarrant, USA, became Deputy Chief, AFSWP, by General Order Number 14, Headquarters, AFSWP, dated 22 June 1953, effective on that date. He continued to serve as Deputy Chief throughout the rest of the year.

Rear Admiral Edward N. Parker, USN, who had become Deputy Chief, AFSWP, Navy, on 2 November 1952, continued to serve as Deputy Chief throughout the year 1953. On 29 May 1953, Admiral Parker was appointed to serve, in addition to his other duties, as Department of Defense Member of the Combined Policy Committee Subgroup of Scientific

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Advisers, succeeding Mr. Robert LeBaron (Chairman of the Military Liaison Committee) in that capacity.

3-2-2. The Chief of Staff and the Deputy Chiefs of Staff.

Colonel Harold C. Donnelly, USAF, who had been appointed Chief of Staff, AFSWP, on 19 March 1951, was promoted to Brigadier General on 15 December 1953. He continued to serve as Chief of Staff for the rest of the year (and until 20 January 1954, when he left the project for a new assignment overseas, and was succeeded by Colonel I. L. Branch, USAF, as Acting Chief of Staff).

Colonel Theron Coulter, USAF, who had been appointed Deputy Chief of Staff, Operations, on 15 July 1952, continued to serve in that capacity throughout the year 1953.

Captain Kenneth V. Dawson, USN, who had become Deputy Chief of Staff, Technical Services, with the reorganization of 28 November 1951, continued to serve in that capactiy until 5 June 1953, when he was succeeded by Captain Bert F. Brown, USN, as announced in AFSWP General Order No. 11, dated 5 June 1953.

Colonel William A. Davis, Jr., CE, USA, who had been appointed Deputy Chief of Staff, Administration, on 21 July 1952, continued so to serve throughout the year 1953.

3-2-3. Previous Records of Highest Officers.

Following the same procedure as in the previous volumes of this History, with respect to top personnel of Headquarters, AFSWP (the Chief, the two Deputy Chiefs and the Chief of Staff), a brief description of the previous record of the new incumbent who was assigned to one of

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these top level positions in the Project during the year 1953 (General Tarrant) is included herein.

Brief descriptions of the previous records, before coming to the AFSWP, of the other top officers, may be found in previous volumes of this History, as follows:

Maj. Gen. (then Brig. Gen.) A. R. Luedecke, USAF, in Vol. IV, par. 3-2-3b.

Rear Adm. E. N. Parker, USN, in Vol. V, par. 3-2-3a.

Brig. Gen. (then Col.) H. C. Donnelly, USAF, in Vol. IV, par. 3-2-3c.

Another high officer, who served as a "Special Assistant" to the Chief, AFSWP, during the year 1953, was Rear Admiral John Sylvester, USN, and a brief description of his previous record is likewise included herein.

a. Brigadier General Legare Kilgore Tarrant, USA.

General Tarrant was born in Newberry, South Carolina, on 22 July 1904. He was appointed to the U. S. Military Academy from the Third South Carolina Congressional District and graduated in the class of 1928. Upon graduation, he was assigned to the Coast Artillery Corps and served at Fort Monroe, Virginia, in Panama, and in the Philippines, prior to World War II.

At the time of the outbreak of the war in Europe, General Tarrant was a student in the Command and General Staff School at Fort Leavenworth, Kansas; upon completion of this course he was transferred to West Point, with duty as Tactical Officer of the U. S. Military

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Academy, and he remained on this duty until a few months after Pearl Harbor. In April 1942, then a Lieutenant Colonel, he was assigned as Antiaircraft Officer and later as Deputy Chief of Staff of the First Fighter Command at Mitchell Field, New York. In December 1943, he was transferred to the China-Burma-India Theater, serving for a year and a half as Antiaircraft Officer of the United States Air Force, China-Burma-India Theater.

At the end of the war in Europe, General Tarrant was again assigned to the Tactical Department, U. S. Military Academy, and commanded the 1st Regiment, U. S. Military Academy. In August 1946, he was transferred to Washington, D. C., and was a student at the first class of the National War College. At the completion of the course, he was assigned to the Plans and Operations Division, War Department, General Staff (later, G-3, Department of the Army). While on this assignment, his duties included service with: the Strategic Plans Branch, Plans and Operations; the Joint Strategic Plans Group of the Joint Chiefs of Staff; the Guided Missile Section Policy Branch of G-3; and as Chief of the Army War Plans Branch, Plans Division, G-3.

At the outbreak of the Korean War, General Tarrant was en route to Alaska, where he served as Chief of the Plans Branch of Plans and Operations Division (J-3) of the Alaskan Command, until he was transferred and assigned to Command the New York-Brooklyn antiaircraft defenses.

As previously noted, General Tarrant was assigned as Deputy Chief, AFSWP, on 22 June 1953.

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b. Rear Admiral John Sylvester, USN.

Rear Admiral Sylvester was born in Wellston, Ohio, on 8 July 1904. He was appointed to the U. S. Naval Academy from the First Congressional District of Colorado in 1922, graduated in June 1926, and was commissioned an Ensign, U. S. Navy. During the pre-war years he served on cruisers and destroyers and took a postgraduate course in ordnance (torpedoes). He was awarded the degree of S. M., from the Massachusetts Institute of Technology, in 1936.

During World War II, Admiral Sylvester served first as executive officer of the U.S.S. Columbia in the Northern Solomons and Peleliu operations, and then as operations and gunnery officer on the staff of Vice Admiral Oldendorf, the Commander of the Bombardment and Fire Support Group, during the Leyte and Lingayen campaigns in the Philippines. Thereafter, for the remainder of the war, he served on the staff of the Commander, Cruisers-Destroyers, U.S. Pacific Fleet.

In 1948 and 1949, Admiral Sylvester commanded Destroyer Squadron Eight in the Atlantic Fleet, and in 1951 and 1952, the U.S.S. Missouri. In January 1953, he reported to the Headquarters, AFSWP, for duty in connection with the plans and preparations for Operation WIGWAM. On 1 July 1953, he was promoted to the rank of Rear Admiral, U.S. Navy.

Admiral Sylvester had been awarded the following decorations: Legion of Merit with Gold Star; Bronze Star; and Navy Unit Commendation.

3-2-4. Other Personnel of the Executive Office.

In addition to the Chief, the Deputy Chiefs, the Chief of

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Staff, and the Deputy Chiefs of Staff, the executive office (as the term is here used) of Headquarters, AFSWP, included the following:

a. Special Assistants to the Chief, AFSWP.

Rear Admiral (then Captain) John Sylvester, USN, was assigned to AFSWP, on 9 January 1953, with the mission of heading the group which was planning the WIGWAM Test. This group had just been established - four days earlier - as the Special Field Projects Division (see par. 3-1-3 above), but as it was considered not proper to assign an officer of Admiral Sylvester's rank as the chief of a division, he was assigned to the position of Special Assistant to the Chief, AFSWP. His promotion from Captain to Rear Admiral was effected on 1 July 1953.

Major Albert L. Bethel, USA, continued to serve as a Special Assistant to the Chief, AFSWP, throughout the year 1953.

b. Technical Director. Dr. Herbert Scoville, Jr., continued to serve as Technical Director throughout the year 1953. He continued to serve also as technical adviser to the Chief, AFSWP, and as a member of the Radiation Branch of the Weapons Effects Division.

c. Inspector General. Colonel Donald E. Antes, CE, USA, continued to serve as Inspector General, AFSWP, in addition to his duties as Chief of the Logistics Division, throughout the year 1953.

d. Surgeon. At the beginning of the year 1953, Lt. Colonel Gerald M. McDonnell, MC, USA, and Lt. Colonel James B. Hartgering, MC, USA, were serving as Surgeon and Assistant Surgeon, AFSWP, respectively. On 30 June 1953, Lt. Col. Hartgering relieved Lt. Col. McDonnell as Surgeon, and Lt. Colonel Louis E. Browning, MC, USA (who had come to AFSWP on 1 May 1953),

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relieved Lt. Col. Hartgering as Assistant Surgeon. Lt. Col. Hartgering left the Project on 23 September 1953, and the next day, 24 September 1953, Lt. Col. Browning was appointed Surgeon. He continued to serve as Surgeon throughout the rest of the year. Major Richard K. Miller, USAF (MC), joined the project on 18 September 1953 and became Assistant Surgeon, under Lt. Col. Browning, on 24 September 1953, continuing in this position through the end of the year.

e. Materials Officer. Captain Glenn S. Brunson, Jr., USA, was appointed to the new position of Materials Officer by General Order No. 16, Headquarters, AFSWP, dated 20 July 1953. He continued to serve in this position during the rest of the year.

f. Historian. Mr. Gavin Hadden and Mrs. Mary F. Shelley continued to serve as Historian and Assistant Historian of AFSWP, respectively, throughout the year 1953.

3-2-5. Definitions of Functions.

In Volume IV of this History, covering the year 1951, the definitions of the functions of the personnel of the executive office (as the term is here used) of AFSWP were quoted in full (see Vol. IV, par. 3-2-5); in Volume V, the preceding volume, covering the year 1952, the changes which had taken place during 1952, as indicated in the booklet "Organization and Functions of Headquarters, Armed Forces Special Weapons Project", dated August 1952, were described (see Vol. V, par. 3-2-5). The further changes which occurred during the year 1953 were shown in the next edition of the booklet, which was prepared at the end of the year and was dated January 1954. The new definitions of the

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functions of the various components of the executive office, as thus published, are quoted herein below, and are accompanied by brief explanatory comparisons with the corresponding definitions as published in August 1952.

a. Chief, Armed Forces Special Weapons Project.

"1. Reports to the Chief of Staff, U. S. Army; the Chief of Naval Operations and the Chief of Staff, U. S. Air Force.

"2. Exercises command over the Armed Forces Special Weapons Project, its installations and assigned organizations.

"3. Executes all orders and directives given him by higher authority.

"4. Is responsible for the formulation of plans and policies to accomplish the mission of the Armed Forces Special Weapons Project.

"5. Maintains liaison with the three services and with other agencies, as appropriate, concerning current policies and programs in the atomic energy field.

"6. Performs such additional duties as may be assigned to him."

These definitions were repeated unchanged except for a minor revision of phrasing in No. 4, for greater clarity.

b. Deputy Chiefs, AFSWP.

(These definitions were intended to apply to each of the two Deputy Chiefs, individually.)

"1. Reports to and advises the Chief, AFSWP, on matters under his cognizance.

"2. Maintains liaison with the three services and with other agencies, as appropriate, concerning current policies and programs in the atomic energy field.

"3. Performs the duties of the Chief, AFSWP, when appropriate in the latter's absence."

[redacted]

The wording of these definitions was closely analogous to the wording previously used in the separate definitions of the functions of each Deputy Chief, but with certain important omissions. As previously noted, the designation of the two Deputy Chiefs by their services, as "USA" and "USN", was abandoned; more important still was the elimination of the designation of one Deputy Chief as furnishing "guidance to the Deputy Chief of Staff, Operations" and of the other as furnishing "guidance to the Deputy Chief of Staff, Technical Services"; the specification (of the Deputy Chief, USAF) as "supervises staff actions on matters originated by or pertaining to the Military Liaison Committee" was also eliminated. The major result of these changes was to make the duties of the Deputy Chiefs less specific, more flexible, and completely interchangeable.

c. Inspector General.

"1. Reports to the Chief, AFSWP.

"2. Performs such annual inspections as are directed. Also performs special inspections when required.

"3. Reviews inspection reports from subordinate echelons."

There were no changes in these definitions.

d. Special Assistant.

"1. Administers control and refers for action or coordination, documents coming to the Chief, AFSWP, by reason of his association with MLC, CAE, etc.

"2. Performs such duties as may be directed by the Chief, AFSWP."

Obviously, these definitions were intended to apply to the functions of Major A. L. Bethel only, and not to those of Admiral Sylvester.

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These definitions were unchanged, except for the omission of one item previously included: "Maintains file of charts and other briefing material used by the Chief, AFSWP."

e. Technical Director.

"1. Reports to the Chief, AFSWP, and advises him on technical and scientific matters pertaining to the AFSWP program.

"2. Reports concurrently to the Deputy Chiefs, AFSWP, on matters within the broad field of military application of atomic energy.

"3. Furnishes assistance and guidance to the technical panels and committees organized within the Headquarters, AFSWP.

"4. Coordinates the activities of the Scientific Advisory Panels.

"5. Furnishes advice and guidance on scientific and technical matters to Deputy Chief of Staff for Technical Services and staff divisions of the headquarters.

"6. Represents the Chief, AFSWP, in liaison with the Atomic Energy Commission, Assistant Secretary of Defense for Research and Development, Weapons Systems Evaluation Group, National Research Council and similar agencies.

"7. Assists in the technical planning and direction of atomic weapons tests.

"8. Performs collateral duty as a member of the Radiation Branch, Weapons Effects Division.

"9. Performs such other duties as may be assigned to him."

These definitions were substantially the same as before, except that: changes of wording were made (in item No. 2) to conform to the changes in the definitions of the functions of the Deputy Chiefs, AFSWP (see subpar. b above); changes of wording were made (in item No. 6) to conform to the changes of organization in the Office of the Secretary of Defense; item No. 7 was inserted as a new definition; and changes were made in item No. 8 to omit reference to the Radiological Warfare Branch

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of the Weapons Development Division, of which the Technical Director had ceased to be a member.

f. Technical Adviser.

"1. Reports to the Chief, AFSWP, and advises him on effects of atomic weapons on structures.

"2. As a representative of the Chief, AFSWP, advises the Atomic Energy Commission in planning methods of reduction of vulnerability of new production facilities.

"3. Under direction of the Deputy Chief of Staff, Technical Services, maintains liaison with the Federal Civil Defense Administration and coordinates transmission of appropriate weapons effects information to that agency.

"4. Advises the FCDA on planning atomic tests of structures and preparation of instructional material on blast resistant design and shelters.

"5. Performs collateral duty as a member of the Blast Branch, Weapons Effects Division, in coordinating laboratory tests and studies relating to the effects of blast on structures.

"6. Performs such other duties as may be assigned to him."

These definitions were entirely new, as the functions of this position (occupied by Mr. Sherwood B. Smith) had not been previously defined.

g. Technical and Scientific Adviser.

"1. Reports to the Chief, AFSWP, and advises him on technical and scientific matters pertaining to AFSWP interests.

"2. Furnishes assistance and guidance to working groups within Headquarters, AFSWP, with particular emphasis on aerological and geophysical matters as they pertain to research, development and testing of atomic weapons.

"3. Performs collateral duty as member of Test Division for assistance in radiological safety engineering and aerological matters as they pertain to practical field operations.

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"4. Maintains contact at working level with military task forces currently involved in atomic weapons testing, and other government agencies and organizations performing work on atomic weapons.

"5. Performs such other duties as may be assigned to him."

These definitions were entirely new, as the functions of this position (occupied by Captain Russell H. Maynard, USN) had not been previously defined.

h. Chief of Staff and Deputy Chiefs of Staff.

(1) Chief of Staff.

"1. Reports to and advises the Chief, AFSWP, and, when appropriate, the Deputy Chiefs, AFSWP, on matters over which he has cognizance.

"2. Supervises the activities of the Deputy Chief of Staff, Operations, the Deputy Chief of Staff, Administration, and the Deputy Chief of Staff, Technical Services. Furnishes guidance to them for the functions over which they have jurisdiction.

"3. Coordinates all matters pertaining to efficient operation of the command, acting as principal assistant and adviser to the Chief, AFSWP.

"4. Formulates policies relative to functioning of staff units and insures that the plans and policies of the Chief, AFSWP, are executed."

These definitions remained as before, unchanged.

(2) Deputy Chief of Staff, Operations.

"1. Reports to and advises the Chief of Staff, AFSWP, concerning the functions which are under his cognizance.

"2. Supervises and coordinates the activities of the Operations and Training Division and the Plans Division."

The wording of the first of these definitions was altered slightly by the insertion of the words "and advises". The second definition remained unchanged. A third definition, which appeared previously, referring to keeping the "Deputy Chief, AFSWP (USAF)" advised,

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was omitted, in line with the changes in the definitions of the functions of the Deputy Chiefs.

(3) Deputy Chief of Staff, Administration.

"1. Reports to and advises the Chief of Staff, AFSWP, concerning the functions which are under his cognizance.

"2. Supervises and coordinates the activities of the Personnel, Security and Logistics Divisions.

"3. Keeps the Chief of Staff, AFSWP, advised of his activities and consults him for general guidance."

Except for the insertion of the words "and advises", in item 1, these definitions remained unchanged.

(4) Deputy Chief of Staff, Technical Services.

"1. Reports to and advises the Chief of Staff, AFSWP, on matters pertaining to the work of the Weapons Development, Weapons Effects, Special Field Projects and Weapons Test Divisions (Technical Divisions).

"2. Supervises and coordinates all activities of the Technical Divisions.

"3. Reviews the budget estimates and approves expenditures by the Technical Divisions.

"4. Directs and coordinates activities involving liaison with Federal Civil Defense Administration."

These definitions remained the same as before, except the insertion of the words "and advises" in Item 1, except for for changes in the names of the divisions, in Item 1, to conform to the changes in organization, and except for the omission of one definition, which appeared previously as No. 2, referring to advising the "Deputy Chief, AFSWP (USN)", which was in line with the changes in the definitions of the functions of the Deputy Chiefs.

i. Materials Office.

"1. Reports to and advises the Chief of Staff, AFSWP, on matters pertaining to materials production and reactor development.

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"2. Keeps informed of the status of production of critical materials.

"3. Keeps informed of the status of the various reactor programs.

"4. Advises and assists the staff divisions of the headquarters in the above matters."

These definitions were entirely new, as the functions of the Materials Office (occupied by Captain Glenn S. Brunson, Jr., USA) had not been previously defined.

j. Historian.

"1. Reports to and advises the Chief of Staff, AFSWP, on all historical matters.

"2. Compiles the annual history of AFSWP.

"3. Performs such other special duties as may be assigned."

These definitions were the same as before except for a change of wording in item No. 1, which was amplified to include advice to the Chief of Staff and to apply to "all historical matters".

k. Surgeon.

"1. Reports to the Chief of Staff, AFSWP, on the operation of medical facilities.

"2. Exercises staff supervision over the operation of the U.S. Army Hospital, Sandia Base, through the Commanding General, Field Command. Maintains liaison with the Surgeon General, U.S. Army, in matters pertaining to operation of the hospital.

"3. Maintains liaison with the Assistant Secretary of Defense (Health and Medical) and the Surgeons General of the Army, Navy and Air Force on medical matters pertinent to the atomic energy field.

"4. Functions as Chief of the Medical Branch, Weapons Effects Division, and coordinates on biomedical matters with the Weapons Test Division."

In these definitions, item No. 1 was entirely new; item No. 2 remained unchanged; item No. 3 was changed to conform to the changes

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in organization of the Office of the Secretary of Defense; and item No. 4 was changed to conform to the organizational changes in AFSWP whereby the Weapons Defense Division was abolished and the Medical Branch was transferred to the Weapons Effects Division.

3-2-6. Advisers.

a. Scientific Advisers.

The Headquarters of AFSWP continued to obtain the benefit of the services of a number of scientific advisers, not only of those who were permanently assigned to the Project but also of scientific advisers outside the Project, who served as consultants, or as members of consultative panels.

(1) Within the Project.

The principal scientific adviser to the Chief and the Deputy Chiefs, within the Project, was the Technical Director, Dr. Herbert Scoville, Jr., who served in that office throughout the year. In addition, serving as "Technical and Scientific Advisers", were Captain Russell H. Maynard, USN, Mr. Sherwood B. Smith, and Mr. Beauregard Perkins, Jr.. Captain Maynard joined the Project on 30 January 1953, and Mr. Perkins left the Project on 28 May 1953.

At the beginning of the year, Dr. Scoville, Mr. Smith, and Mr. Perkins were designated also as advisers to the Deputy Chief of Staff, Technical Services, and each of these men served the Project as a member of one of the AFSWP staff divisions as well. Dr. Scoville served as a member of the Radiation Branch of the Weapons Effects Division throughout the year; Mr. Smith served as a member of the Blast and Shock

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Branch (later the Blast Branch) of the Weapons Effects Division throughout the year; and Mr. Perkins served as a member of the Analysis Branch of the Weapons Effects Division until 28 May 1953.

Captain Maynard served as one of the "Technical and Scientific Advisers" (first to the Deputy Chief, AFSWP, Navy, and later to the Chief and the Deputy Chiefs) from 31 January 1953 until the end of the year. He served also as a member of the Test Plans and Operations Branch, Weapons Test Division, and, later, as Military and Scientific Coordinator of that Division.

Activities of these advisers will be described in succeeding sections of this chapter.

(2) Consultants.

At the beginning of the year 1953 the following scientists from outside the project were listed as consultants;

Dr. A. B. Arons

Dr. Walker Bleakney

Dr. David Griggs

Dr. Robert Hansen

Dr. W. A. Noyes, Jr.

Dr. John von Neumann

Dr. Dana Young

"and others"

(Ref. 39, Organ. Chart, 5 Jan 53)

Of these scientists, only Dr. Bleakney, Dr. Hansen and Dr. von Neumann rendered services to AFSWP and were paid therefor by AFSWP during the

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year. In addition, the following also rendered services during the year:

Dr. Clayton O. Dohrenwend

Mr. Austin H. Emery

Dr. Gioacchino Failla

Dr. Hoyt C. Hottel

Dr. Nathan M. Newmark

Dr. Herman E. Pearse

Dr. Donald W. Taylor

Dr. Merit P. White

Some of these consultants rendered their services as members of various advisory panels, and their names will appear again hereinafter in the records of these panels.

(The listing of the names of consultants, as individuals apart from the panels, on the AFSWP Organization Charts was discontinued after the Chart of ~~5 January~~ 1 July 1953 was issued.)

(3) Panel on Thermal Radiation.

At the beginning of the year 1953, the Panel on Thermal Radiation was composed of the following members: Dr. H. C. Hottel, of Massachusetts Institute of Technology, Chairman; Dr. H. E. Pearse of the University of Rochester; Dr. Edward O. Hulburt, of the Naval Research Laboratory; and Dr. James D. Hardy, of Cornell University; also, as non-voting members, or consultants, Dr. Herbert Scoville, Jr., and Lt. Colonel G. M. McDonnell, MC, USA, of AFSWP; and, as Secretary and Assistant Secretary, Lt. Colonel E. B. Giller, USAF, and Mrs. L. B. Streets, of AFSWP.

The membership of the Panel itself remained unchanged

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throughout the year 1953. Of the non-voting members, or consultants (all representatives of AFSWP), Lt. Colonel McDonnell was succeeded, on 30 June 1953, by Lt. Colonel James B. Hartgering, MC, USA, and he, in turn, was succeeded by Lt. Colonel Louis E. Browning, MC, USA, on 24 September 1953. Dr. Scoville, Lt. Colonel Giller and Mrs. Streets continued to serve throughout the year.

The activities of the Panel on Thermal Radiation will be described in a succeeding section of this chapter, which deals with the Weapons Effects Division. (See par. 3-8-2 b.)

(4) Panel on Radiological Instruments.

At the beginning of the year 1953, the Panel on Radiological Instruments was composed of the following members: Dr. G. Failla, of Columbia University, Chairman; Dr. W. F. Bale, of the University of Rochester; Dr. F. R. Shonka, of Argonne National Laboratory; Dr. G. K. Green, of Brookhaven National Laboratory; Dr. R. A. Weiss, of the Department of the Army; Commander B. H. Andrews, USN; and Lt. Colonel B. D. Witwer, USAF.

Alternate members were: Mr. T. E. Hedman, of the Department of the Army; Lcdr. W. R. Sams, USN; and Captain K. Russell, USAF.

Associate members were: Lt. Colonel G. M. McHaney, Army Field Forces, USA; Colonel E. G. Bennett, Chemical Corps, USA; Lcdr. J. Terry, Bureau of Aeronautics, USN; Lcdr. F. W. Chambers, Bureau of Medicine, USN; Lt. Colonel K. W. Beckstrom, Directorate of R&D, USAF; Lt. Colonel R. D. Bowers, Directorate of Plans, USAF; Dr. R. D. Evans,

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Joint Panel on Medical Aspects of Atomic Warfare (MAAW); Dr. P. B. King, Jr., Committee on Electronics, Research and Development Board; Dr. L. S. Taylor, National Bureau of Standards; Mr. R. L. Butenhoff, Atomic Energy Commission; and Mr. J. C. Greene, Federal Civil Defense Administration.

The Secretariat consisted of Dr. Herbert Scoville, Jr., Lt. Colonel Paul C. Day, USA, and Major John d'H. Hord, USAF, of AFSWP.

On 21 October 1953, the following changes in membership occurred: Major Robert Spiker, USA, succeeded Lt. Colonel G. M. McHaney as Army Field Forces associate member; Mr. Joseph Lindwarm succeeded Colonel E. G. Bennett, USA, as Chemical Corps associate member (Lt. Colonel T. F. Cook, USA, had previously been nominated to replace Colonel Bennett, but had not yet been accepted by the Panel); Mr. Richard Munnikhuysen was appointed as Air Force associate member from the Directorate of Research and Development, to fill an existing vacancy, left by the departure from the panel of Lt. Col. Beckstrom, some time before.

No other changes occurred during the year. (See also par. 3-8-2 d(2).)

(5) Height of Burst Panel.

The members of the Height of Burst Panel, at the beginning of the year 1953 were: Dr. John von Neumann, Chairman, Dr. Walker Bleakney, Dr. D. T. Griggs, Dr. G. K. Hartman, Prof. H. C. Hottel, Dr. C. W. Lampson, Dr. W. A. MacNair, and Dr. Fred Reines. Lt. Colonel Bruce D. Jones, USA, of the Blast Branch of the Weapons Effects Division, AFSWP, served as Executive Secretary of the Panel.

There were no changes in the membership of the Panel during the year 1953.

The activities of the Height of Burst Panel will be

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When the Weapons Defense Division, AFSWP, was discontinued, as of 1 April 1953, under the provisions of General Orders No. 6, Headquarters, AFSWP, dated 20 March 1953, the function of providing the Chairman and the Secretariat for the "Armed Forces Joint Radiological Defense Training Panel" (this was still another name by which to refer to the Panel) was transferred from the Weapons Defense Division to the Operations and Training Division. In carrying out this function, Captain Charles Blenman, Jr., USN, Chief of the Operations and Training Division, was appointed Chairman of the Panel, to succeed Captain Hinners, who was about to leave AFSWP on another assignment. This appointment was made by memorandum from the Chief, AFSWP, dated 27 May 1953, addressed to Captain Blenman. By the same memorandum, Commander Francis E. Sommers, USN, of the Operations and Training Division, was designated to serve as alternate to Captain Blenman. (Ref. 40 , Memo SWPEF, 27 May 53, "Appointment as Chairman of Panel on Joint Radiological Defense Training".)

When Lt. Colonel Boehm left AFSWP, on 29 April 1953, he was succeeded as secretary of the Panel by Dr. Karl F. Oerlein, of the Operations and Training Division.

No further changes in the Panel occurred during the year 1953.

(See par. 3-9-2a(1) and par. 3-6-3e(1).)

b. Medical Adviser.

The Surgeon of AFSWP (successively, Lt. Col. Gerald M. McDonnell, Lt. Colonel James B. Hartgering, and Lt. Colonel Louis E. Browning, during the year 1953, as described in par. 3-2-4d above) served as medical adviser for Headquarters, AFSWP, and as Chief of the Medical Branch (first in the Weapons Defense

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Division and later in the Weapons Effects Division). The activities of the Surgeon and the Assistant Surgeon, as distinguished from their activities as members of the Medical Branch, will be described in par. 3-3-11 below; the activities of the Medical Branch will be described in the later sections of this chapter which deal with the Weapons Defense and the Weapons Effects Divisions. (See par. 3-8-6 and 3-9-4.)

3-2-7. Liaison with Other Agencies.

Many of the agencies and subordinate agencies with which the AFSWP had dealings during the year 1953 have already been mentioned in an earlier paragraph of this History (par. 2-4) under the heading "Relation of AFSWP to Other Agencies"; also, in the introductory first chapter of this volume, the memberships or the names of the incumbents, and the changes in membership, of some of the more important agencies, such as the Atomic Energy Commission, the National Security Council, the Secretary of Defense, the Secretaries of the Army, the Navy, and the Air Force, and the Joint Chiefs of Staff, have been recorded (par. 1-2h, i, j, k, l). Further information about some of these agencies and about some others with whom the AFSWP shared activities during 1953 will be recorded here.

a. Office of the Secretary of Defense.

Mr. Robert A. Lovett and Mr. William C. Foster continued to serve as Secretary of Defense and Deputy Secretary of Defense, respectively, until they were succeeded, early in 1953, by President Eisenhower's new appointees. Mr. Charles E. Wilson became Secretary of Defense on 29 January 1953 and Mr. Roger M. Kyes became Deputy Secretary of Defense on

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2 February 1953. (See par. 1-2j.)

Mr. Robert LeBaron continued to serve as Deputy for Atomic Energy of the Secretary of Defense until after the new administration took over, when his title was changed to: Assistant to the Secretary of Defense (Atomic Energy). He continued to serve in this capacity throughout the rest of the year 1953; and he continued also to serve, throughout the whole year, in his other capacity, as Chairman of the Military Liaison Committee.

b. Joint Chiefs of Staff.

The complete change in the membership of the Joint Chiefs of Staff during the year 1953 has already been described (see par. 1-2ℓ). Admiral Arthur W. Radford, USN, succeeded General Omar N. Bradley, USA, as Chairman on 15 August 1953; General Matthew B. Ridgway, USA, succeeded General J. Lawton Collins, USA, as Chief of Staff, USA, on 15 August 1953; Admiral Robert B. Carney, USN, succeeded Admiral William M. Fechteler, USN, as Chief of Naval Operations on 17 August 1953; and General Nathan F. Twining, USAF, succeeded General Hoyt S. Vandenburg, USAF, as Chief of Staff, USAF, on 30 June 1953.

The official position of the Chief, AFSWP, reporting to, and receiving orders from, all three of the Service chiefs, continued unchanged throughout the year 1953, under the charter of the Project, dated 12 July 1951.

c. Committee on Atomic Energy, Research and Development Board.

Under Reorganization Plan No. 6 of 1953, which became effective in July 1953, 60 days after its submission to Congress, the

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Research and Development Board and its Committee on Atomic Energy were abolished, and it was planned that there would be established in place of that committee the Coordinating Committee on Atomic Energy, under the Assistant Secretary (Research and Development) of the Office of the Secretary of Defense. Mr. Donald A. Quarles, former President of Sandia Corporation, was appointed Assistant Secretary (Research and Development) on 1 September 1953, but the new committee was still in process of organization when the year 1953 ended. (See par. 3-2-1 above; also, par. 1-2j.)

Mr. James Craig Starks (as noted parenthetically in Vol. V, par. 3-2-7d) succeeded Mr. D. Z. Beckler as a member of the Committee on Atomic Energy of the Research and Development Board on 5 January 1953; Mr. Starks also succeeded to the position of Executive Director of the Committee. Major General Herbert B. Loper, USA, was succeeded, as Associate Member of the Committee, by Major General (then Brig. Gen.) A. R. Luedecke, USAF, when the latter became Chief of AFSWP, on 12 June 1953. Colonel Kenner F. Hertford, USA, was promoted to Brig. General on 4 March 1953. There were no other changes in the Committee, and its membership, during the rest of its existence, remained as follows:

Dr. Robert F. Bacher, Chairman

Brig. General Harry McK. Roper, USA

Brig. General Kenner F. Hertford, USA

Rear Admiral Richard W. Ruble, USN

Rear Admiral George C. Wright, USN

Maj. General Howard G. Bunker, USAF

Maj. General Donald N. Yates, USAF

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Maj. General A. R. Luedecke, USAF, Associate Member

Dr. J. R. Oppenheimer

Dr. H. A. Winne

Mr. William F. Hosford

Mr. James Craig Starks, Executive Director

Dr. H. A. Bethe

The Committee was, in effect, abolished by Department of Defense Directive No. 5128.7, dated 12 November 1953 (Ref. 38), which specified the responsibilities of the new Assistant Secretary of Defense (Research and Development) and cancelled all conflicting directives, etc., previously issued; but the committee ceased to be active after 24 April 1953.

(The Coordinating Committee on Atomic Energy was officially established by Department of Defense Directive No. 5128.18, dated 6 January 1954, which superseded Directive No. 5128.18 dated 14 April 1953.)

d. Weapons Systems Evaluation Group.

The connection of the AFSWP with the Weapons Systems Evaluation Group during the year 1953 was so inconsequential that it seems unnecessary to record here the changes in the personnel of the Group which took place in that year. Suffice it to say that Lt. General Geoffrey Keyes, USA, continued to serve as Director throughout the year, and Colonel C. G. Dodge, USA, was succeeded, in the latter part of the year, by Colonel Jack H. Griffith, USA, as Executive ~~Director~~ Secretary.

e. Army, Navy and Air Force.

~~Major~~ Brig. General Harry McK. Roper, USA, (who had succeeded

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General Loper early in 1952) continued to serve as Deputy Assistant Chief of Staff, G-3 (RR & SW) (meaning: Research Requirements and Special Weapons) throughout the year 1953.

Brig. General Kenner F. Hertford, USA, continued to serve as Assistant Chief, Research and Development Division, Assistant Chief of Staff, G-4, until 14 October 1953, when he succeeded Major General J. F. Uncles, USA, as Chief of that Division and as Deputy Assistant Chief of Staff, G-4 for R&D, and Brig. General A. P. O'Meara, USA, succeeded him as Assistant Chief of the Division.

Rear Admiral G. C. Wright, USN, continued to serve as Director, Atomic Energy Division, ACNO (Readiness) (Op-36) throughout the year 1953.

Major General Howard G. Bunker, USAF, continued to serve as Assistant for Atomic Energy, Deputy Chief of Staff Operations (AFOAT), throughout the year 1953.

All four of these officers continued to represent their respective services in the memberships of the Military Liaison Committee and the Committee on Atomic Energy of the Research and Development Board (see subpar. g below and c above). In this way the advantages of interlocking positions in the services and on these two important committees were retained.

f. Military Liaison Committee.

As stated in previous volumes of this History, the Military Liaison Committee (referred to also as the Military Liaison Committee to the Atomic Energy Commission) was the statutory committee

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established and governed by the Atomic Energy Act of 1946, charged with military liaison between the services and the Atomic Energy Commission. The membership of the committee remained unchanged throughout the year 1953, but the Executive Secretary, Captain Raymond P. Hunter, USN, was succeeded on 2 June 1953 by Colonel Orin S. Richardson, USAF (Ref. 41, MLC Administrative Memoranda, #12-53, 2 June 1953, and #13-53, 4 June 1953). Also, as noted previously, Major General A. R. Luedecke, USAF, Chief, AFSWP, succeeded Major General Herbert B. Loper as observer. Captain James S. Russell, Navy Member, was promoted to Rear Admiral on 1 July 1953.

At the end of the year 1953, therefore, the membership of the Military Liaison Committee was as follows:

Mr. Robert LeBaron, Chairman
Brig. General Harry McK. Roper, USA, Army Member
Brig. General Kenner F. Hertford, USA, Army Member
Rear Admiral George C. Wright, USN, Navy Member
Rear Admiral James S. Russell, USN, Navy Member
Maj. General James E. Briggs, USAF, Air Force Member
Maj. General Howard G. Bunker, USAF, Air Force Member
Colonel Orin S. Richardson, USAF, Executive Secretary

and Maj. General A. R. Luedecke, USAF, Chief, AFSWP, was an observer (as an individual).

As noted previously, the interlocking positions of the chairman and of various service representatives, in positions in their services, continued as before.

g. Atomic Energy Commission.

The changes in the membership of the Atomic Energy Commission, its General Manager, and some of its key personnel, during the

year 1953, have been recorded in an earlier chapter of this History (see par. 1-2h). The names of the members of the Commission at the end of the year (Messrs. Strauss, Murray, Smyth, Campbell, and Zuckert, in reverse order of expiration of their terms of service), and the General Manager, K. D. Nichols, were there listed, and pertinent excerpts from the Commission's two Semi-Annual Reports for 1953 were quoted or described. The relations between the AFSWP and the Atomic Energy Commission continued to parallel those between the Military Liaison Committee and the Commission. The contacts between the AFSWP and the AEC at the working levels took place principally through the parts of the AEC organization which are described below.

(1) Division of Military Application.

Brigadier General Kenneth E. Fields, USA, continued to serve as Director, Division of Military Application, throughout the year 1953. Under his direction (throughout the year) was the Manager, Santa Fe (Albuquerque, New Mexico) Operations Office, Carroll L. Tyler.

Under Manager Tyler, in turn, were the following:

Manager, Burlington (Iowa) Field Office:
E. W. Giles

Manager, Eniwetok Field Office (Albuquerque, N. Mex.):
Paul W. Spain

Manager, Kansas City (Mo.) Field Office:
James C. Stowers

Manager, Las Vegas (Nev.) Field Office:
Seth R. Woodruff, Jr.

Manager, Los Alamos (N. Mex.) Field Office:
Frank C. Diluzio

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Manager, Pantex (Amarillo, Tex.) Field Office:
Walter W. Stagg

Manager, Rocky Flats (Colo.) Field Office:
Gilbert C. Hoover

Manager, Sandia (N. Mex.) Field Office:
Daniel F. Worth, Jr.

During the latter half of the year the San Francisco (Calif.) Operations Office, under John Flaherty, Manager, was changed in name to the San Francisco (Calif.) Field Office, and placed under the Manager of the Santa Fe Operations Office and the Director of the Division of Military Application, instead of under the Director of the Division of Reactor Development as before. Mr. Flaherty remained the Manager of the new Field Office.

A new organization chart of the Division of Military Application was issued under date of 1 April 1953, with some changes projected to 1 May 1953. The following key personnel were shown on this chart:

Director - Brig. General K. E. Fields, USA
Executive Officer - Colonel Jack L. Armstrong, USAF
Technical Assistant - Paul C. Fine
Radiology Adviser - Captain Harry H. Haight, USN

Plans and Programs Branch.
Chief - Captain F. L. Ashworth, USN
Deputy Chief - Lawrence P. Gise

Research Branch.
Chief - Captain John T. Hayward, USN (until 1 May 1953)
Colonel Vincent G. Huston, USAF (effective 1 May 1953)
Technical Assistant - Donald F. Mastick

Development and Production Branch.
Chief - Colonel R. G. Butler, Ord., USA, (until 1 May 53)
Colonel Marcus F. Cooper, USAF (effective 1 May 53)

Management - Operations Branch.
Chief - Lawrence H. Bayer
Assistant Chief - George J. Keto

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(2) Santa Fe Operations Office.

As stated above, Mr. Carroll L. Tyler remained Manager, Santa Fe (Albuquerque, New Mexico) Operations Office, throughout the year 1953.

(3) Los Alamos Scientific Laboratory.

The Los Alamos Scientific Laboratory, at Los Alamos, New Mexico, continued to be operated by the University of California as contractor, with Dr. Norris E. Bradbury serving as Director and Dr. Darol K. Froman as Technical Associate Director, throughout the year 1953.

(4) Sandia Laboratory.

The Sandia Laboratory, Sandia Base, Albuquerque, New Mexico, continued to be operated by Sandia Corporation as Contractor. Mr. Donald A. Quarles continued to serve as president of the corporation through the major part of the year 1953; he was appointed Assistant Secretary of Defense (Research and Development) on 1 September 1953, and he was succeeded, as President of Sandia Corporation, by Mr. James W. McRae. Mr. F. Schmidt continued to serve as Vice President in charge of Operations throughout the year.

The contacts of the AFSWP with Sandia Corporation continued, as before, to occur most frequently through the major field organization of the Project, Field Command, AFSWP, at Sandia Base. Descriptions of the activities in which the Laboratory and the AFSWP took part will be found, for the most part, in Chapter 4, hereinafter.

(5) Special Weapons Development Board.

The Special Weapons Development Board continued to

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function, under its charter of 2 September 1952 (see Vol. V, par. 3-2-7h (5)) throughout the year 1953. The three principals by whom the Board was established, jointly, were: the President, Sandia Corporation, who was Mr. Donald A. Quarles, until he was succeeded by Mr. James W. McRae; the Commanding General, Field Command, AFSWP, Major General L. S. Stranathan, USAF; and the Director, Los Alamos Scientific Laboratory, Dr. Norris E. Bradbury.

The following changes in membership of the Board occurred during the year 1953: Dr. K. W. Erickson succeeded Dr. R. P. Petersen as one of the Sandia Corporation representatives on 21 January 1953, and Dr. Erickson, in turn, was succeeded by Dr. S. C. Hight on 29 July 1953; on 16 December 1953, Commander D. K. Ela, USN, succeeded Captain (formerly Commander) John H. McQuilkin, USN, as a representative of the AFSWP.

At the end of the year 1953 the membership of the Special Weapons Development Board was as follows:

Sandia Corporation.
- Mr. R. E. Poole, Chairman
- Dr. S. C. Hight
- Mr. L. A. Hopkins, Jr.
- Mr. R. W. Henderson

Los Alamos Scientific Laboratory
- Mr. R. E. Schreiber
- Mr. D. P. MacDougall

Armed Forces Special Weapons Project
- Rear Admiral W. V. Davis, USN
- Brigadier General R. T. Coiner, Jr., USAF
- Brigadier General S. V. Hasbrouck, USA
- Colonel Paul J. Long, USAF
- Commander D. K. Ela, USN
- Lt. Colonel R. E. Swetzer, USA

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(Ref. 42, Minutes of Meetings of Special Weapons Development Board, 21 Jan 53, 29 July 53, and 16 Dec 53.)

Further information about the Special Weapons Development Board and its activities will be found in the history of the Weapons Development Division, in a later section of this chapter, and in the history of Field Command, AFSWP, in Chapter 4.

(6) Director, Office of Classification.

The contacts between Headquarters, AFSWP, and the Atomic Energy Commission which were concerned with classification policies and classification actions were carried on principally with Mr. James G. Beckerley, who was Director, Office of Classification, AEC, throughout the year 1953.

(7) Director, Division of Security.

Mr. John A. Waters, Jr., served as Director, Division of Security, of the Atomic Energy Commission, throughout the year 1953, and he was concerned with questions of security or security policies in which the AFSWP was involved.

h. Office of Guided Missiles.

The Office of Guided Missiles, headed by Mr. Karl T. Keller, Director, and Major General K. D. Nichols, USA, Deputy Director, was dissolved in 1953. Mr. Keller considered the mission of the office completed on 17 September 1953 (as announced in a news release of 18 September) and the dissolution of the office was accomplished by 31 October 1953.

i. Federal Civil Defense Administration.

The Federal Civil Defense Administration, classified as

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one of the emergency agencies of the executive branch of the government, continued to carry out the functions for which it was established (by Public Law 920, 81st Congress, 2nd Session, 12 January 1951; see Vol. III, par. 1-2k; Vol. IV, par. 1-2n; Vol. V, par. 1-2j),"to provide a plan of civil defense for the protection of life and property" from attack. Its headquarters continued to be located at Gelmarc Towers, 1930 Columbia Road, NW, Washington, D. C.

Mr. James J. Wadsworth, who had succeeded Mr. Millard Caldwell as Administrator of the Federal Civil Defense Administration on 15 November 1952, continued to serve in this post until 22 February 1953, when Mr. Val Peterson succeeded him, by Presidential appointment. Mr. Peterson was a former Governor of Nebraska, and the President had been balked in an effort to appoint him Ambassador to India, because the two Senators from Nebraska had objected to him as "personally obnoxious", as a result of a political feud. The President had then, on 28 January 1953, appointed Mr. Peterson as an administrative assistant to serve as liaison between the White House departments and agencies, a position which did not require Senatorial approval. The Senators made no objection to Mr. Peterson's appointment as Administrator of the Federal Civil Defense Administration.

Colonel Barnet W. Beers, USA, continued to serve in the Office of the Secretary of Defense on matters involving Civil Defense. His title was subjected to various changes during the year; he was first named Assistant for Civil Defense, under the Director of Administration, Office of the Secretary of Defense; later (in December 1953), he was

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designated Director of Civil Defense Liaison Division, under the Director of the Office of Domestic Security Programs, under the Assistant Secretary (Manpower and Personnel). (Later, early in 1954, he was again designated Assistant for Civil Defense.)

Among the other key personnel of the FCDA as of 31 December 1953 were the following:

Harold L. Aitken, Executive Assistant Administrator

Hubert R. Gallagher, Assistant Administrator, Field Relations

Raoul Archambault, General Counsel

Justice M. Chambers, Assistant Administrator, Planning Staff

Ralph E. Spear, Deputy Assistant Administrator, Planning Staff

William N. Rehlaender, Assistant Administrator, General Administration Staff

D. Dean Pohlenz, Director, Publications Office

Ernest E. Hall, Assistant Administrator, Operations Control Services

Gerald R. Gallagher, Assistant Administrator, Technical Advisory Services

Arthur D. Morrell, Director, Engineering Office, Technical Advisory Services

(Ref. 43 , Congressional Directory, Feb 54, pp. 359, 360.)

Captain K. V. Dawson, USN, Deputy Chief of Staff, Technical Services, AFSWP, served as Coordinator for AFSWP with the FCDA, until he left the Project on 5 June 1953. Mr. Sherwood B. Smith was appointed Coordinator, and Commander H. D. Davison, USN, was appointed Alternate

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Coordinator, by the provisions of AFSWP Directive No. 21-2, dated 15 June 1953. (Ref. 44.) The complete list of AFSWP personnel appointments, with their primary fields of interest, appeared in this directive as follows:

Mr. Sherwood B. Smith	Coordinator, also Blast Effects
Cdr. H. D. Davison, USN	Alternate Coordinator, also Atomic Defense
Dr. Herbert Scoville, Jr.	General Effects of Atomic Weapons
Col. E. B. Giller, USAF	Thermal and Nuclear Radiation Effects
Lt. Col. J. B. Hartgering, USA	Biomedical Effects
Maj. J. d'Hord, USAF	Atomic Defense, including Radiac Instruments

Also listed in this directive were the following individuals "currently designated by the Administrator, FCDA, as Liaison Representatives to the AFSWP":

Office of Plans and Policies

Weapons Effects Division

H. Kenneth Gayer, Director (Responsible for Coordinating Liaison)

Hoyt L. Lemons

John Slaten Jenner

Garrel L. Schuyler

Health and Special Weapons Defense Office

Robert Harold Flinn

Jack Carpenter Greene

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[redacted]SECRET

Vincent B. Lamoureux

Edwin Gantt Williams

Atomic Test Operations Staff

Harold L. Goodwin, Director

Office of Technical Operations

Engineering Division

Benjamin C. Taylor, Technical Branch

Abraham Samuel Neiman

Public Safety Division

Kyle P. Laughlin, Fire Branch

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FIRST HISTORY OF AFSWP 1947 - 1954

VOLUME 6 - 1953, CHAPTER 3 - HEADQUARTERS

SECTION 3 OF 14 SECTIONS

THIS SECTION DECLASSIFIED WITH
DELETIONS BY DNA, CHIEF, ISTS

DATE: 10/3/94

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CHAPTER 3 - HEADQUARTERS

SECTION 3 - ACTIVITIES OF EXECUTIVE OFFICE

3-3-1. General.

As in previous years, most of the activities of that part of Headquarters, AFSWP, which is here designated the executive office were reflected in the activities of the various headquarters divisions, the historical accounts of which, for the year 1953, will be found in later sections of this chapter. Some of the activities, however, which were independent of, or supplementary to, the activities of the divisions, will be described in this section under appropriate unit or subject headings. (The order of arrangement of the subjects is not significant.)

3-3-2. Combined Policy Committee Subgroup of Scientific Advisers - Technical Cooperation Program (TCP).

Rear Admiral E. N. Parker, USN, Deputy Chief, AFSWP, Navy, was appointed, on 29 May 1953, as an additional duty, Department of Defense Member of the Combined Policy Committee Subgroup of Scientific Advisers, vice the Hon. Robert LeBaron, Office of the Secretary of State, who was relieved. The appointment was made by Secretary of Defense Charles E. Wilson in a memorandum for the Chief, AFSWP, dated 29 May 1953 (see par. 2-2a(5)).

Admiral Parker then designated Captain G. S. Brunson, USA, as his assistant, in addition to Captain Brunson's other duties with the AFSWP. Files were transferred by Colonel Donald G. Williams, USA, MLC, from the office of Mr. LeBaron to the custody of Admiral Parker.

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The Quebec Agreement of August 1943 established a Combined Policy Committee (CPC) to coordinate the exchange of limited information on atomic energy matters among the United States, the United Kingdom, and Canada. On 7 January 1948, the Combined Policy Committee established a "Modus Vivendi" under which certain categories of information, including "Restricted Data", were exchanged among the three nations. This exchange of information, by visits and documents, had been termed the Technical Cooperation Program (TCP) and was being administered by the CPC Subgroup of Scientific Advisers, comprising, for the United States, representatives of the Department of Defense and of the Atomic Energy Commission. The Modus Vivendi established nine areas of information for exchange, of which six areas were currently active, in 1953.

During the latter half of the year 1953, meetings were held between the representatives of the Department of Defense and the Atomic Energy Commission relative to including in the Modus Vivendi an Area definition covering certain aspects of information on weapons effects to be exchanged with the British and the Canadians. In December 1953, action of the Combined Policy Committee enlarged the Health and Safety Area (Area 2) to include such information, incorporating specific limitations. It was understood that the terms of reference under which this new topic would be administered would be developed by the AEC and the Department of Defense. Steps were taken by the representatives of both agencies to formulate and establish primary responsibilities and workable procedures.

The initiative for the exchange of information under Area 5,

which was concerned with detection of a distant nuclear explosion, lay with the Department of Defense, but the AEC member of the Combined Policy Committee Subgroup of Scientific Advisers had to be properly advised of exchanges taking place within this Area, and he had to be allowed to review, on behalf of the Atomic Energy Commission, important changes, especially with respect to Restricted Data. To this end, a meeting was held in November 1953 among the representatives of the AEC, the AFSWP, and AFOAT-1 (Air Force Assistant for Atomic Energy), to discuss information forwarded to the British and the Canadians, in a coordinated effort to arrive at a general agreement for exchange of information under Area 5.

During December 1953, the Department of Defense member of the CPC Subgroup of Scientific Advisers took steps to establish a method whereby the lawful, consistent and orderly exchange of information with the British and the Canadians could be achieved within the CPC definition of Area 5. Admiral Parker outlined in writing certain "DOD Approved Topics", based on the fundamental criterion in Area 5, which were forwarded to the AEC and the AFOAT-1 representatives for comment. The "DOD Approved Topics" were accepted by the AEC member of the Subgroup, who saw no inconsistency between them and the general criterion for Technical Cooperation used by the AEC for Area 5. As of 31 December 1953, coordination with AFOAT-1 on this subject had not been completed.

3-3-3. Technical Services.

The Technical Services of the Armed Forces Special Weapons Project continued to be a primary interest of the Deputy Chief, AFSWP,

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Navy, who devoted major efforts to the technical divisions and furnished guidance to the Deputy Chief of Staff, Technical Services (see par. 3-2-1). These two officers exercised supervision over the activities of the Weapons Development Division, the Weapons Effects Division, the Weapons Defense Division (until it was discontinued as of 1 April 1953), the Weapons Test Division, and the Special Field Projects Division. Supervision over the Special Field Projects Division, which was established on 5 January 1953, was also exercised by Admiral Sylvester, as previously stated. (See par. 3-1-3a.) The activities of these divisions will be described in detail in later sections of this chapter; here, some of the more important activities of the year 1953 which were subject to supervision from the executive office may be enumerated.

a. Test Participation.

Test participation by the Technical Services during the year 1953 was concerned with activities which included the following:

(1) Preparation and publication of TUMBLER-SNAPPER reports.

(2) Planning, preparation, participation, and reporting of Operation UPSHOT-KNOTHOLE, and preparation and publication of UPSHOT-KNOTHOLE reports.

(3) Planning and preparation for Operation CASTLE.

The mission of the AFSWP was extended by the Joint Chiefs of Staff, by memorandum dated 24 April 1953 (see par. 2-2e(2)), to "exercise, within any Task Force organization, technical direction of weapons effects tests of primary concern to the Armed Forces and the weapons effects phases of

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developmental or other tests of atomic weapons". This extension of the AFSWP mission required reaching an understanding with the Commander, Joint Task Force 7, charged by the Joint Chiefs of Staff with planning for and executing Operation CASTLE, as to how the AFSWP would discharge this added responsibility for that operation. Rear Admiral Edward N. Parker, USN, conducted the negotiations with the Commander, JTF-7, and members of the JTF staff, and this led to the signing on 21 May 1953, by the Chief, AFSWP, and on 22 May 1953 by the Commander, JTF-7, of a "Memorandum Agreement Between Commander, Joint Task Force 7, and the Chief, AFSWP, Regarding AFSWP Participation in Operation CASTLE". Subsequent to the signing of this agreement, certain aspects of the command relationship between the Commander of Task Group 7.1 (a civilian employee of Los Alamos Scientific Laboratory) and other JTF-7 elements were developed which changed the basis upon which the AFSWP had negotiated the agreement. For this reason, conversations with representatives of JTF-7 were undertaken by Rear Admiral Parker. The modifications sought were retention of the Research and Development funds by the AFSWP and a relaxation of restrictions upon liaison between the AFSWP and the task unit of the JTF-7 concerned with weapons effects tests of the Department of Defense.

The "Memorandum Agreement" of 21 and 22 May 1953 was superseded by a more detailed agreement, with the same title, signed on 28 July and 3 August 1953. The new agreement included the retention of all Research and Development funds by the AFSWP and the relaxation of restrictions upon liaison between the AFSWP and JTF-7, as sought by Rear Admiral Parker. (See par. 2-2e(1).)

In accordance with a request from Field Command on 17 March 1953 (TWX FCWET 21), a branch office of the Directorate of Weapons Effects Tests (BODWET) was established in Washington under Captain Neil E. Kingsley, USN, for the purpose of coordinating and planning for military effects tests at Operation CASTLE. General Order No. 4, Joint Task Group 7.1, dated 29 May 1953, activated Task Unit 13 in Washington under Captain Kingsley. The purpose of this Task Unit was to go on from the planning stage to the actual execution of the military effects program. A message from Field Command dated 26 June 1953 (FCWET 6-6-5270) announced that Headquarters, Task Unit 13, would close in Washington and open at Sandia Base, under control of Colonel Huntington K. Gilbert, USAF, effective 1 July 1953.

A memorandum from Mr. Lyle S. Garlock, Deputy Comptroller for Budget, OSD, dated 11 July 1953, clarified the responsibility for funding and budgeting extraordinary military expenses for JTF-7. AFSWP continued to budget for this item. (See par. 2-2e(3).)

On 28 September 1953, there was published an "Agreement Between AFSWP and the AEC Regarding Exchange of Photography from Atomic Weapons Tests". (See par. 2-2e(4).) It was expected that this agreement would clarify handling, reproduction, filing and distribution of test photography.

(4) Planning for Operation TEAPOT.

(5) Planning for Operation WIGWAM.

With an increase in personnel, the Special Field Projects Division continued with the planning for operation WIGWAM.

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Early problems under consideration dealt with selection of targets, method of handling targets, small scale and model testing, weapon choice, and selection of a site for test. During the second half of the year this planning intensified. The need for a third target became more acute, and inclusion of the third target, together with the required funds, was approved by the Deputy Secretary of Defense on 8 September 1953.

b. Budget and Fiscal.

(1) Expenditures of Research and Development funds during Fiscal Year 1953 were as follows:

	Obligated 1 Jan - 30 June 53	Total Obligations for FY 1953
1. Capabilities of Atomic Weapons	$589,250	$1,531,845
2. Thermal Radiation Studies	118,000	576,960
3. Nuclear Radiation Studies	16,300	38,300
4. Investigation of Medical Aspects of Thermal Injury	11,130	105,810
5. Development of Practice Bombs		565,000
6. Investigation of the Effects of Ionizing Radiation in Humans	50,000	125,000
7. Therapy of Radiation Syndrome	98,570	131,346
8. Development of A-Bomb Testing, Handling and Assembly Devices	11,775	11,775
TOTAL	$895,025	$3,086,036

Details of all the above items, except Nos. 5 and 8, may be found in the history of the Weapons Effects Division, hereinafter,

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in Section 8.
Items Nos. 5 and 8 may be found in the history of the Weapons Development Division, in Section 7 of this chapter.

Expenditures of Research and Development funds during the first half of Fiscal Year 1954 were as follows:

		Obligated 1 July - 31 Dec 53
1.	Capabilities of Atomic Weapons	$592,100
2.	Thermal Radiation	237,000
3.	Nuclear Radiation	31,000
4.	Medical Investigation of Thermal Injury	22,114
5.	Ionizing Radiation	15,000
6.	Development of Equipment and Techniques	49,000
	TOTAL	$946,214 (in Section 8)

The history of the Weapons Effects Division contains details of all the above items except Item No. 6, which appears in the history of the Weapons Development Division, in Section 7 of this chapter.

(2) The total test expenditures of Research and Development funds during Fiscal Year 1953 were approximately $8,620,000, with a carry-over of funds to Fiscal Year 1954 of approximately $3,580,000.

The total expenditures of Research and Development funds for preliminary planning and tests during the second half of calendar year 1953 (the first half of Fiscal Year 1954) were as follows:

Preliminary Planning	$ 712,000
CASTLE	2,502,521
WIGWAM	1,374,484
TOTAL	$4,589,005

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(3) Expenditures of Extra-Military funds during Fiscal Year 1953 and during the first half of Fiscal Year 1954 were as follows:

	FY 1953	FY 1954 - 1st half
UPSHOT-KNOTHOLE	$3,124,000	$ 88,200
TUMBLER-SNAPPER	5,000	
CASTLE	275,000	5,000,000
WIGWAM	10,000	110,000
TEAPOT		10,000
TOTAL	$3,414,000	$5,208,200

JOINT TASK FORCE 132 - $4,800,000
Returned to Army Comptroller - $3,500,000 (FY 1953)

c. Research and Development.

(1) General.

The office of the Deputy Chief, AFSWP (Navy) and the Deputy Chief of Staff, Technical Services, continued to supervise the work of the Technical Divisions in their respective fields.

During the second half of the year, specific project officers were appointed for all Research and Development work programmed by Headquarters, AFSWP. Among other general duties, each project officer was to receive monthly financial statements from the Logistics Division for action. By means of these reports on funds and on actual work progress, a much more effective control of the Research and Development funds of AFSWP was made possible.

(2) Divisions.

The Weapons Effects Division continued extensive research into the effects of atomic weapons and was engaged in a complete study, in conjunction with the three services, of the status of knowledge of weapons effects, to provide proper guidance for future

Research and Development work in this field. The activities of the division are contained, in detail, in its history, in Section 8 of this chapter.

The Weapons Development Division coordinated the development program with the three services and the Atomic Energy Commission. During the early part of the year the division was particularly active in effecting an agreement between the AEC and the Department of Defense for the development, production, and standardization of atomic weapons where both these agencies had responsibilities in the development and production of atomic weapons and components. During the later part of the year the division was particularly active in coordinating requirements for thermonuclear weapons, and in the establishment of requirements for small diameter weapons; this latter field included requirements for surface-to-air antiaircraft weapons and air-to-air weapons, both in the low yield range. (See history of Development Division, Section 7.)

The Special Field Projects Division continued the preliminary planning and the preparation for the deep underwater test. Primary effort was directed toward solving the problems of weapon placement, yield determination, and enlargement of the program to include a third target. (See history of Special Field Projects Division, Section 11.)

The Weapons Test Division was involved in the roll-up of Operations BUSTER-JANGLE, TUMBLER-SNAPPER, and IVY, and in planning for future tests. It was concerned with headquarters coordination of the

enlargement of certain CASTLE programs and in headquarters coordination of the planning for Operation TEAPOT. (See history of Weapons Test Division, Section 10.)

(3) Panels.

The following panels were operational during the year 1953:

Height of Burst Panel
Panel on Radiological Instruments
Panel on Thermal Radiation

The memberships of these panels have been recorded in paragraph 3-2-6. Other details about them may be found in the history of the Weapons Effects Division, Section 8 hereinafter.

d. Technical Library.

The Technical Library (in the Weapons Effects Division) served as an information center for the three services and for other government agencies in the field of atomic energy, particularly weapons effects.

A detailed review of the organization and functions of the Technical Divisions focused attention on the possible need for revising the organizational status of the Technical Library Branch of the Weapons Effects Division; accordingly a staff study was initiated that resulted in a recommendation that the Library, for many reasons, but primarily because of the need for furnishing direct service to all divisions in the headquarters, become a separate division under the Deputy Chief of Staff, Technical Services. This study and its recommendations were in the Office of the Chief of Staff, AFSWP, at the end of the year 1953.

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e. Federal Civil Defense Administration.

By AFSWP Directive No. 21-2, dated 15 June 1953, a procedure for liaison with the Federal Civil Defense Administration was established. Mr. Sherwood B. Smith was designated as Coordinator, with Commander H. D. Davison, USN, as his assistant. The whole program of FCDA liaison was carried on under the cognizance of the Deputy Chief, AFSWP (Navy), and the Deputy Chief of Staff, Technical Services.

Later in the year, a new policy interpretation was made which resulted in a partial relaxation of security control on passing information about weapons effects to the Federal Civil Defense Administration. This policy resulted in the immediate transmittal to FCDA of an expurgated version of the document "Capabilities of Atomic Weapons" (TM 23-200). Also, a review was undertaken of all test reports previously withheld, to ascertain the possibility of transmitting them under the provisions of the new policy. Details of this action will be found in the history of the Weapons Effects Division (Section 8, hereinafter). (See also par. 3-3-7 hereinafter.)

In planning for Operation TEAPOT, a coordinated action was pursued to integrate, to the greatest possible extent, the requirements of the Federal Civil Defense Administration and the Department of Defense for information on weapons effects. Participation was to be integrated insofar as the requirements of the two agencies were analogous and insofar as security restrictions would not be jeopardized.

f. Reorganization of Motion Picture Production.

AFSWP Circular No. 14, dated 28 December 1953, which

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superseded AFSWP Circular No. 1, dated 5 March 1953, and AFSWP Circular No. 3, dated 13 May 1953, spelled out the steps to be taken to get a requirement for a film from the original idea through to the finished product. Details of this action may be found in the history of the Weapons Effects Division, Section 8, hereinafter.

g. Organization.

The Weapons Defense Division was dissolved, effective 1 April 1953, by General Order No. 6, Headquarters, AFSWP, dated 20 March 1953, and its personnel and functions were assigned largely to (1) the Operations and Training Division and (2) the newly formed Effects Application Branch of the Weapons Effects Division.

h. Personnel.

It was determined early in the year 1953 that with the transfer of many of the responsibilities for test operations to the Directorate of Weapons Effects Tests, of Field Command, AFSWP, and with the transfer of various responsibilities for test reports and test projects to other divisions of Headquarters, AFSWP, the Weapons Test Division of Headquarters, AFSWP, was unnecessarily large. Accordingly, a gradual transfer of billets and personnel was started, to reduce the Test Division to a level commensurate with its responsibilities and to allow other divisions to be strengthened when necessary. As a result of this action, the Weapons Test Division sustained the following losses during the year:

3 Lt. Colonels, Army
3 Commanders, Navy
2 Majors, Army
1 Major, Air Force
3 Enlisted Men

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The Deputy Chief of Staff, Technical Services, also sustained the loss of one civilian clerk-typist. The Weapons Effects Division gained:

1 Commander, Navy
2 Majors, Army
1 Major, Air Force
1 Civilian Clerk-Typist

The Weapons Development Division sustained the loss of one enlisted stenographer, and gained:

1 Commander, Navy
1 Civilian Stenographer

On 1 January 1953, the following personnel were on duty in the Technical Services Office:

Rear Admiral E. N. Parker, USN, Deputy Chief, AFSWP (USN)
Captain K. V. Dawson, USN, Deputy Chief of Staff, Technical Services
Captain G. S. Brunson, USA, Assistant to the Deputy Chief of Staff, Technical Services
Miss Rose Bertie, Secretary to the Deputy Chief, AFSWP (USN)
Mrs. Martha Holmes, Secretary to the Deputy Chief of Staff, Technical Services
W. E. Wolff, YN1, USN, Yeoman Superviser

The following changes took place during the year 1953:

Mrs. Martha Holmes left the office on 9 January 1953 to be Chief Clerk for the Special Field Projects Division. She was succeeded as Secretary to the Deputy Chief of Staff, Technical Services, on 9 February 1953, by Mrs. Lenora M. Lynn.

Captain K. V. Dawson, USN, was relieved by Captain Bert F. Brown, USN, on 11 May 1953.

W. E. Wolff, YN1, USN, left the office on 6 July 1953, to be Yeoman in the Analysis Branch, Weapons Effects Division. SFC R. N. Charleston, USA, came to work as Administration Specialist, in the Office of the Deputy Chief of Staff, Technical Services, on 2 July 1953.

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Captain G. S. Brunson, USA, left the office on 13 July 1953, to work in the Office of the Chief of Staff, AFSWP, as Materials Officer; he was succeeded as Assistant to the Deputy Chief of Staff, Technical Services, on the same day, by Major G. A. Smith, USA.

On 31 December 1953, the personnel on duty in the Technical Services office were the following:

Rear Admiral E. N. Parker, USN, Deputy Chief, AFSWP
Captain Bert F. Brown, USN, Deputy Chief of Staff, Technical Services
Major G. A. Smith, USA, Assistant to the Deputy Chief of Staff, Technical Services
Miss Rose Bertie, Administrative Assistant and Secretary to Deputy Chief, AFSWP (Navy)
Mrs. Lenora M. Lynn, Secretary to Deputy Chief of Staff, Technical Services
SFC R. N. Charleston, USA, Admin Specl

i. Trips of Deputy Chief of Staff, Technical Services.

After Captain Bert F. Brown, USN, became Deputy Chief of Staff, Technical Services, he made several coordinating visits to various agencies working in the technical phases of the atomic energy program. These trips (each of which was covered by an individual trip report) may be summarized as follows:

(1) On 28 July 1953, he visited Field Command for the purpose of orientation on their technical activities, particularly in the field of weapons development.

(2) On 2 October 1953, he visited the underground structures at Fort Ritchie to obtain information on the particular operation there and to gather technical data on underground structures.

(3) On 12 October 1953, he visited Field Command in order to coordinate the efforts of the Directorate of Weapons Effects

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Tests of Field Command, and the Test Division, Headquarters, AFSWP. In addition, he received briefings from personnel of the Development Division of Field Command on the status of knowledge of their activities following Operation CASTLE, proposed by the Atomic Energy Commission.

(4) On 25 November 1953, he made a trip to the Office of Naval Research and the Naval Radiological Defense Laboratory, in San Francisco, relative to the research projects sponsored by the AFSWP in the thermal and nuclear fields. He visited the California Research Laboratories, at Livermore, California, in connection with their developmental progress in very high and very low yield weapons. He also visited Rand Corporation, Santa Monica, California, to discuss their progress on several projects being pursued by this corporation, for the Air Force, which were of considerable interest to the AFSWP.

3-3-4. Operations.

The office of the Deputy Chief of Staff, Operations, continued to function as it had in the past, since its establishment on 28 November 1951. It continued to be primarily a monitoring, coordinating, and advisory office, and, as before, the initiative and responsibility were maintained in each of the two divisions under the supervision of the Deputy Chief of Staff. Each of these divisions, (1) the Plans and Requirements Division, which became, on 20 April 1953, the Plans Division, and (2) the Operations and Training Division, maintained its own office of records, and the Deputy Chief of Staff maintained custody of no routine records whatever. (See Vol. IV, par. 3-3-3; Vol. V, par. 3-3-3.)

In the early part of the year 1953, until after General Luedecke ceased his service as Deputy Chief, AFSWP (Air Force), and became Chief of AFSWP, the office of the Deputy Chief of Staff, Operations, continued to operate under the guidance of the Deputy Chief, AFSWP, Air Force. Thereafter, when the primary interests of the two Deputy Chiefs in separate parts of the organization were abolished, the Deputy Chief of Staff, Operations, reported directly to the Chief of Staff, AFSWP.

The official functions of the Deputy Chief of Staff, Operations, have been described in a previous section of this chapter (par. 3-2-5h(2)) and the changes in the wording of the definitions of these functions - the changes which were made during the year 1953 - were there described.

It is evident from the foregoing that the activities of the Deputy Chief of Staff, Operations, for the year 1953, will be reflected in the historical accounts of the two divisions under his supervision, in Sections 5 and 6 hereinafter.

As previously recorded (see par. 3-2-2), Colonel Theron Coulter, USAF, continued to serve as Deputy Chief of Staff, Operations, throughout the year. The personnel of this office consisted of Colonel Coulter and one secretary, who was, at the end of the year, Miss Eva M. Sauter.

3-3-5. Administration.

The Deputy Chief of Staff, Administration, supervised and coordinated the activities of three divisions - the Logistics Division,

the Security Division, and the Personnel Division - and his activities, as before, will be reflected in the historical accounts of these divisions (Sections 12, 13 and 14, hereinafter, respectively). The official functions of this Deputy Chief of Staff have been recorded in a previous section of this chapter (par. 3-2-5h(3)), with a description of one minor change in wording which was made during the year 1953. It has also been recorded previously (in par. 3-2-2) that Colonel William A. Davis, Jr., CE, USA, continued to serve as Deputy Chief of Staff, Administration, throughout the year.

The personnel of the office of this Deputy Chief of Staff consisted of Colonel Davis and Mrs. Edith O. Conrad, Secretary.

3-3-6. AFSWP Glossary.

The second edition of the AFSWP Glossary (Short Title: AFSWP-103A) was compiled and nearly completed during the year 1952, as described in the preceding volume of this History (see Vol. V, par. 3-3-5). As there noted (parenthetically), the final, fair, typed copy, for reproduction by the offset process, was completed and sent to the classified printing office of the Department of Defense on 9 February 1953; and the printed edition, 400 copies, was received on 27 February. For Headquarters, AFSWP, 50 copies were reserved; 87 copies were sent to Field Command, AFSWP, and 150 copies were sent to the services and others, leaving a reserve of 113 copies for filling additional requests. In response to such additional requests, 27 additional copies were distributed during the year 1953, leaving a balance of 86 copies on hand at the end of the year. (Four more copies were distributed early in

1954, before the third edition of the Glossary was published; leaving a final balance of 82 unused copies.)

The preparation of a third edition of the AFSWP Glossary was first initiated by Field Command, AFSWP, in August 1953. In response to a request from Field Command, received on 3 August 1953, the Historian, Headquarters, AFSWP, attended a meeting of the Field Command Glossary Board at Sandia Base on 12 August 1953. The Historian had edited and coordinated the two previous editions of the Glossary and the Board wished to discuss with him their proposals for the next edition. The meeting was attended by eleven officers representing various sections of the Field Command organization and was conducted by Major J. J. McGann, FCAG, Chairman. As a result of this meeting, it was decided that Field Command would take a more important part in the writing of the Glossary, by drafting a completely revised edition and submitting it to Headquarters, AFSWP, if possible before the writing of the new edition had started in Washington. The Board also suggested that it might be advantageous if Field Command should take over the entire Glossary project and compile and publish the future editions at Sandia Base. At Headquarters, AFSWP, it was decided that the third edition would be finally compiled and published by Headquarters, but that its drafting would be postponed until the proposed revisions had been received from Field Command.

By letter dated 25 November 1953, Field Command submitted to Headquarters, AFSWP, three lists of Glossary terms: (1) Revisions, (2) Deletions, and (3) Additions. (Ref. 45, FCAG 461, to Chief, AFSWP, ATT: Historian, subject: "AFSWP Glossary (Short Title: AFSWP 103A)", 25

Nov. 53.) With the help of a group of officers of Headquarters, AFSWP, each item of each list was marked with a symbol or symbols indicating the division or divisions of Headquarters which were principally concerned with it, and then, on 16 December 1953, all the lists were submitted for review to all the divisions. At the same time, a list of a small number of additional terms which had been collected in Headquarters, AFSWP, was also submitted to the divisions; and the divisions were asked to review also the remaining definitions in the second edition of the Glossary of which Field Command had recommended no revisions. The following table shows how the distribution of primary interests happened to work out and how many items of each list were marked for each division (including duplications, where the same item had been marked for two or more divisions):

	No. of Marked Terms in Each List					
Division	FC Rev	FC Del	FC Add	2nd Ed. Remain	Hq. AFSWP New	Total
Plans	27	7	9	35	0	78
Operations & Training	42	47	33	67	8	197
Personnel	0	0	0	2	0	2
Security	1	11	0	11	2	25
Logistics	21	21	13	40	3	98
Weapons Development	73	40	55	62	8	238
Weapons Effects	19	31	5	120	1	176
Weapons Test	19	31	0	29	2	81
Total	202	188	115	366	24	895
Duplicates	26	21	22	45	0	114
Net Total	176	167	93	321	24	781

(No terms were marked for the Special Field Projects Division.)
("FC": Field Command; "Rev": Revisions; "Del": Deletions; "Add": Additions; "2nd Ed. Remain": other items in the second edition of the Glossary to which no revisions were recommended by Field Command.)

The letter from Field Command, of 25 November 1953, contained also some general recommendations, as follows:

a. That "the present edition of the glossary be revised and published by Headquarters, AFSWP, as an official document."

b. "That those terms and abbreviations not considered official be identified in the Glossary by an asterisk."

c. "That use of the official terms be mandatory for AFSWP organizations and recommended for organizations of the three services."

d. "That the appendix to the Glossary be deleted and that the abbreviations to be retained be included in their proper alphabetical sequence in the Glossary. (The inclosed list of proposed additions contains all the abbreviations considered desirable for inclusion.)"

e. "That wide distribution of the Glossary be made to service organizations participating in the special weapons program so that they may become better acquainted with the terminology used by AFSWP."

f. "That the foreword be revised giving consideration to the above recommendations."

g. "That the responsibility for publishing changes to the revised Glossary be delegated to Headquarters, Field Command, AFSWP."

h. ". . . that the revised AFSWP Glossary be submitted to the Joint Special Weapons Publication Board for consolidation with SC-2415(NL) and SC-2826(NL) and publication as a joint special weapons manual."

These recommendations were likewise submitted to all the divisions for their comments.

The divisions were still in process of preparing their reviews and comments when the year 1953 ended (the last of the reviews of the divisions was received on 2 March 1954); therefore the further action on the third edition of the AFSWP Glossary will be recorded in the next volume of this History.

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3-3-7. Dissemination of Atomic Weapons Effects Data to the Federal Civil Defense Administration (FCDA).

a. Directives.

On 1 April 1953, the Secretary of Defense informed Administrator Val Peterson, of the Federal Civil Defense Administration, by letter, of a revised basis for furnishing data on effects of atomic weapons.

On the same date, 1 April 1953, the Assistant for Civil Defense, of the Office of the Secretary of Defense, sent a memorandum to the Secretaries of the Army, the Navy, and the Air Force, on the subject: "Dissemination of Data Obtained from Weapons Tests and Supporting Projects to the Federal Civil Defense Administration". In this memorandum attention was invited to the directive to the Armed Forces Special Weapons Project from the Chiefs of the three services, dated 5 March 1953 (see par. 2-2-f), on the subject of dissemination of data on tests of atomic weapons to the Federal Civil Defense Administration. It was requested that all staff agencies, commands and individuals participating in atomic weapons tests and related research projects, or having such data in their possession, be informed of the current procedure in furnishing data of this kind to the FCDA. In response to this request the following actions were taken:

(1) The Army informed all commands and staff agencies that the AFSWP was the only agency to furnish data on the effects of atomic weapons to the Federal Civil Defense Administration, by letter from the Adjutant General, dated 24 April 1953. (Ref. 46, letter from

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TAG, 24 April 53, File: AGAC-C(M) 350.05 (16 Apr 53) G3, subject: "Dissemination of Data obtained from Weapons Tests and Supporting Projects to the Federal Civil Defense Administration".)

(2) The Navy informed all commands and bureaus of the directive from the Chiefs of Services, by letter from the Chief of Naval Operations, dated 13 April 1953. (Ref. 47 , letter from CNO, 13 April 53, File OP-365 B/em Ser: 0234P36, subject: "Dissemination of Data Obtained from Weapons Tests and Supporting Projects to the Federal Civil Defense Administration".)

(3) The Air Force informed all commands of the directive from the Chiefs of Services, by letter dated 29 April 1953. (Ref. 48, letter, 29 April 53, File AFOAT 2606, subject: "Dissemination of Data Obtained from Weapons Tests and Supporting Projects to the Federal Civil Defense Administration".)

A letter was sent from Headquarters, AFSWP, to the Commanding General, Field Command, AFSWP, dated 16 March 1953 (Ref. 49 , SWPEF-O-932), with a copy of the directive from the Chiefs of the three services on dissemination to the FCDA of data on the effects of atomic weapons. Attention was invited to the fact that Headquarters, AFSWP, had been designated as the agency of the Department of Defense to participate with the Atomic Energy Commission in determining what data on the effects of atomic weapons should be sent to the Federal Civil Defense Administration.

Personnel in the AFSWP who were concerned were kept informed of changes in policy and in methods of transmission of data to the FCDA; and to provide general information AFSWP Directive No. 21-2, dated

12 June 1953, was issued, designated by the same subject title as was borne by so much of the previous correspondence: "Dissemination of Data Obtained from Weapons Tests and Supporting Projects to the Federal Civil Defense Administration". (Ref. 50.)

A copy of the directive from the Chiefs of the three services was sent also to Mr. Robert L. Corsbie, Chief, Civil Defense Liaison Branch, AEC, by letter dated 19 March 1953, for his information. (Ref. 51, SWPTA/2/920.)

b. Conference with AEC, 13 April 1953.

A meeting was held at the Atomic Energy Commission on 13 April 1953, to consider the directive from the Chiefs of the three services, particularly with regard to the requirement that Headquarters, AFSWP, participate with the AEC in determining what data should be furnished. It was desired that the procedure for accomplishing review and transmission of reports, having both military and Restricted Data classifications, be simplified as much as was practicable. A new problem was the handling of the reports of the Civil Effects Test Group, which came up in connection with the UPSHOT-KNOTHOLE operation, the first in which such a group had been established.

At the meeting there was an indication that some of the AEC representatives did not consider that the AEC was bound to withhold data, on effects of atomic weapons, which the AFSWP could not furnish under its directive, although the directive, which was subsequently signed by the Chiefs of the three services and issued on 5 March 1953, had been cleared with Mr. Corsbie in draft form and had been concurred

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in with minor additions. This matter was discussed, but no firm conclusion was reached.

Simpler procedures were agreed upon with representatives of the Federal Civil Defense Administration in obtaining clearance from the Atomic Energy Commission for transmission to the FCDA of reports containing Restricted Data. Another item was the discussion of Restricted Data by AFSWP representatives with the FCDA. The AFSWP had prohibited discussion with FCDA representatives on its own initiative. It was agreed that Restricted Data in reports already furnished to the FCDA might be discussed with their representatives. Little objection was voiced by the AEC to the discussion of Restricted Data by the AFSWP with the FCDA. When a better understanding had been reached, it was felt that it would be possible for the AFSWP to discuss with the FCDA representatives any Restricted Data coming within the scope of the directive from the Chiefs of the three services dated 5 March 1953.

The Atomic Energy Commission wished to send the document, TID-9004, entitled "Interim Subject Guide to Weapon Test Information", to the Federal Civil Defense Administration. This was objected to by the representatives of the AFSWP because many of the reports listed could not be furnished to the FCDA by the AFSWP under the existing directive and it was stated that it was the policy of the AFSWP not to furnish titles of reports which would be withheld. It was agreed that the possibility of providing an expurgated version of TID-9004 would be explored, but, subsequently, it was agreed that this would be impracticable.

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With regard to the processing of the reports of the Civil Effects Test Group, there was considerable difference of opinion. It was the desire of Captain K. V. Dawson, USN (at that time Deputy Chief of Staff, Technical Services, AFSWP, and coordinator for AFSWP with the FCDA), that these reports be furnished in draft form for review, to coordinate information contained in related reports of the Department of Defense and to arrange for deletion of information that could not be furnished to the FCDA in accordance with the directive to AFSWP from the Chiefs of the three services. Dr. Alvin Graves, Scientific Test Director of Operation UPSHOT-KNOTHOLE, was subsequently informed of this proposal, which had been tentatively agreed to by Mr. Corsbie. Dr. Graves objected violently to the idea of such a review by the AFSWP, but he agreed that the reports of the Civil Effects Test Group would be furnished in draft form for the information of AFSWP. In effect, this permitted such action as might be necessary, as discrepancies or need for deletion of objectionable material could be taken up with Dr. Graves or Mr. Corsbie.

An example of the controversy between Headquarters, AFSWP, and the Atomic Energy Commission over classification was the failure of the AEC to transmit a summary entitled "Important Effects of Operation JANGLE". This document was classified Secret, but not Restricted Data. Representatives of the AEC stated that it should be unclassified, as the data furnished in it was for a nominal weapon, but that if it carried a military Secret classification it would necessarily be Restricted Data. It was agreed that the AEC would go ahead and stamp the document Restricted

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Data, without prejudice to the position of the AFSWP in the matter, and would transmit it to the Federal Civil Defense Administration.

The results of this meeting were contained in a document entitled "Summary of AEC-AFSWP Meeting on Mutual Participation for Furnishing Weapons Test Information to the FCDA" (Ref. 52).

c. Scope of Dissemination Desired by AEC.

In the conference with the Atomic Energy Commission, described above, uncertainty remained as to the willingness of the AEC to restrict the transmission of data on the effects of tests of atomic weapons to that permitted by the directive to the AFSWP from the Chiefs of the three Services. In view of this fact and the fact that Headquarters, AFSWP, had been directed to participate with the AEC in determining what test data should be transmitted to the Federal Civil Defense Administration, it was decided that a decision should be reached at the highest level. Accordingly, a letter to the Chairman, AEC, was drafted, inviting attention to the inclosed new directive from the Chiefs of the three services on this subject, and requesting an agreement from the AEC with respect to the scope of information which might be furnished to the FCDA. It was requested that, if the scope stated in the directive could not be agreed to, the scope of Restricted Data information which could be furnished to the FCDA be stated. This draft was cleared by General Luedecke (then Acting Chief of AFSWP) with Mr. Robert LeBaron, Assistant to the Secretary of Defense (Atomic Energy), who agreed that the letter should be signed by General Luedecke. Accordingly, a letter dated 30 April 1953 (SWPTA 932, Ref. 53) was sent

to the Honorable Gordon Dean, Chairman of the U. S. Atomic Energy Commission. An interim reply, dated 27 May 1953, was received, indicating that the matter was being given study and that further reply would be made upon completion of the study.

On 12 August 1953, during a visit to the AEC by Mr. Sherwood B. Smith, Coordinator of Civil Defense Liaison, AFSWP, Mr. Corsbie stated that a reply from the AEC to the letter of 30 April 1953 (see above) would be made by 1 September. He indicated no disagreement except with regard to the stipulation that transmission of information to the FCDA on effects of nuclear detonations of yields greater than 250 KT be limited to graphs or tabulations of the effects which would apply to idealized weapons and would not give information with respect to the yields of specific weapons or devices. At a meeting in the Office of the Assistant for Civil Defense, OSD, on 14 September 1953, Mr. Corsbie stated that a reply to the letter of 30 April 1953 was in the Chairman's office for signature, but that, in view of a proposed meeting requested by Mr. Val Peterson, Administrator, FCDA, for review of the limitations of information being furnished to the FCDA, a positive statement would be withheld pending that meeting. On 6 November 1953, a transcript of the meeting, on 15 October 1953, among representatives of the FCDA, the AEC, and the OSD, was furnished to Mr. Corsbie, on a loan basis, at his request, for use in clearing up any questions regarding the reply of the AEC. By letter dated 30 November 1953, the transcript was returned to Headquarters, AFSWP, by Mr. Corsbie. At the end of the year 1953, no reply to the letter of 30 April had been received.

d. Briefing of FCDA.

In accordance with a request from Colonel Barnet W. Beers, Assistant for Civil Defense, OSD, a meeting was arranged to brief the Administrator, FCDA, and his top level assistants, on the functions of Headquarters, AFSWP, in relation to the Department of Defense, and in the atomic energy field in general. It was the opinion of Colonel Beers that such a briefing would be useful in informing Mr. Peterson of the general functions of the AFSWP and that it would provide a better understanding than that being furnished to him through his assistants. The briefing took place at 0845 hours, 30 April 1953, and was attended by: Mrs. Val Peterson, Administrator, FCDA; Mrs. Katherine G. Howard, Assistant Administrator; and other top-level assistants. From the Office of the Secretary of Defense, Colonel Beers and Captain Joseph Farrell, Jr., USN, attended. Mr. Ward Miller represented the AEC. Participating in the briefing were Major General (then Brig. Gen.) Luedecke, Major General H. B. Loper (who was on medical leave and came in especially for the meeting) and other representatives of Headquarters, AFSWP, concerned in the general problem of furnishing data on effects of atomic weapons to the FCDA. General Luedecke made a welcoming speech, followed by a general discussion of the functions and organization of the AFSWP, by Colonel H. C. Donnelly, Chief of Staff. Mr. Sherwood B. Smith, Coordinator of Civil Defense Liaison, AFSWP, discussed liaison between the AFSWP and the FCDA, and the state of knowledge of the effects of blast on structures. Dr. H. Scoville, Jr., Technical Director, AFSWP, and Lt. Colonel J. B. Hartgering,

Surgeon, AFSWP, discussed the state of knowledge of weapons effects. Colonel Justice Chambers, FCDA, raised the question of the need for better information as to what might be expected in the way of weapons which the enemy might use. Mr. Peterson agreed that the release of more information was necessary because the United States was a democratic nation and as a part of its system it must furnish the public with what they needed to know. General Loper indicated that no benefit would be gained by furnishing information of a technical nature which might not be understood by the public; on the contrary, he felt that it was necessary to tell the public what to do, and this did not necessarily involve release of classified information.

Mr. Peterson raised a question regarding the construction of shelters and the difficulty in determining what the policy should be. He stated that an alternative to providing shelters was a plan of evacuation after receipt of the warning. He emphasized the need for guidance in establishing shelter policy. General Loper stated that Headquarters, AFSWP, could furnish technical information regarding weapons effects but that the question of the program to be pursued in shelter construction required a policy decision. Mr. Peterson stated that he had had one discussion with the President regarding the establishment of policy and that if he could not obtain the required guidance he would discuss the matter with him again.

After the meeting, Mr. Peterson expressed himself as very much pleased to have had the opportunity of meeting the Chief of AFSWP and the AFSWP representatives, and of becoming informed on the

functions and responsibilities of Headquarters, AFSWP.

e. Report on Operation IVY.

Colonel Justice Chambers, of the FCDA, attended Operation IVY, and upon his return he attempted informally to obtain a copy of the operational report covering this test. Subsequently, he addressed a letter to the Chief of AFSWP, dated 2 April 1953, requesting that he be furnished a copy of the general report of the test operation. He was informed by letter, dated 7 April 1953 (SWPNV 932, Ref. 5-4), that the furnishing of such a report was not in accord with the directive received by Headquarters, AFSWP, from the Chiefs of the three services, but that information was being furnished in separate correspondence which would provide a method of scaling the effects of weapons of very high yield.

f. Graphic Presentation of Effects of Weapons of Varying Yields.

Mr. W. G. Althaus, of FCDA, made several visits to Headquarters, AFSWP, during May 1953, in connection with certain investigations he was making of the effects of weapons of very high yield. On 3 June 1953, Mr. Althaus and Mr. Theodore Babbitt of the FCDA discussed with Rear Admiral Parker, Deputy Chief, AFSWP, and Mr. Sherwood B. Smith the desire that the AFSWP prepare a graphic presentation of the variation in effect of atomic weapons with yields, in terms of blast damage to structures, median lethal dosage, and thermal effects. Mr. Althaus had a presentation, prepared by Rear Admiral G. L. Schuyler, USN, Retired, which gave a general idea of the type of information desired. Admiral Parker informed Mr. Althaus that it was the policy of Headquarters, AFSWP, to furnish information of a basic ~~information of a basic~~ character to the FCDA but not to develop information

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in forms suitable to particular applications which might be required by that organization. Admiral Parker agreed to check any work by the FCDA along this line. Mr. Althaus stated: that the information furnished on scaling of weapons of high yield was inadequate in certain respects; that the scaling was for a burst at operational heights of burst, to maximize lower overpressures; and that no data were available on the effects of a low burst. In subsequent meetings these uncertainties were cleared up, and a curve showing the peak pressure-distance data for a 1 KT weapon, based on the results of Operation JANGLE, which could be used for a low height of burst, was transmitted to the FCDA by a letter dated 13 July 1953 (SWPEF/4/384.51, Ref. 55).

g. "Capabilities of Atomic Weapons".

As a result of a discussion of the problems of the FCDA, and particularly the lack of adequate personnel to review test reports, Mr. Sherwood B. Smith recommended, by memorandum to the Deputy Chief of Staff, Technical Services, dated 25 June 1953 (subject: "Meeting at the FCDA on 24 June 1953", Ref. 56), that the furnishing of the document "Capabilities of Atomic Weapons", with the necessary deletions, be reconsidered. This matter was discussed by Captain B. F. Brown, USN, Deputy Chief of Staff, Technical Services, with Colonel G. F. Blunda, USAF, Chief, Weapons Effects Division, and Mr. Sherwood B. Smith, Coordinator of Civil Defense Liaison, and it was decided to take no action at that time. On 9 November 1953, however, at a meeting in Admiral Parker's office, it was agreed to furnish the FCDA with copies of the document, after deletion of portions relating to the effects on purely military

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equipment. On 25 November 1953, three copies of the modified version of the document were forwarded to the FCDA. (See par. 3-3-3e.)

h. Participation in Test Operations.

The participation of the Federal Civil Defense Administration in military effects tests, and the establishment of the Civil Effects Test Group under the sponsorship of the Atomic Energy Commission in Operation UPSHOT-KNOTHOLE, complicated the procedure in transmitting data on effects of atomic weapons to the FCDA. As a matter of general policy the transmission of data by Headquarters, AFSWP, to the FCDA, as an agency, had been placed in a different category from the exchange of information necessary between participants in a test operation. Mr. Benjamin C. Taylor, of the FCDA, was a Project Officer under the Director of Weapons Effects Tests and as such he was furnished all the information necessary for the accomplishment of his mission. He was not authorized to furnish the information so obtained to the FCDA. In the course of his work as Project Officer he had access to "Capabilities of Atomic Weapons", and gained a full appreciation of the benefit of having free use of this document. Since the document had not yet been furnished to the FCDA (see subpar. g above), he requested it informally in meetings at the FCDA attended by representatives of AFSWP. Also, the fact that he was aware of information which was being withheld tended to increase the unhappiness of the FCDA over the fact that certain data were not being furnished.

The formation of a Civil Effects Test Group under the sponsorship of the Atomic Energy Commission caused difficulty in that

in some cases the same individuals were involved in tests for the Civil Effects Test Group and in tests for the Military Effects Test Group. A case in point was the measurement of neutron flux. Dr. V. P. Bond of the Naval Radiological Defense Laboratory was responsible for measurements of neutron flux in both the Military Effects Test Group and the Civil Effects Test Group. The neutron flux varied with the design of the weapon being tested, and in combination with the yield such measurements would disclose the characteristics of the weapon. Where developmental types of weapons were being tested, this in turn would indicate the trend of developments. According to the directive from the Chiefs of the three services, Headquarters, AFSWP, was not permitted to disclose developmental information. It was apparent that under the circumstances involved in Operation UPSHOT-KNOTHOLE such information would become available to the Civil Effects Test Group and to the participants from the FCDA agency. In fact, the test results were disclosed at a meeting of the Civil Effects Test Group which was held on 29 and 30 June 1953.

After some discussion at Headquarters, AFSWP, Dr. H. Scoville, Jr., Technical Director, AFSWP, recommended that a range of values be furnished to the FCDA but that the individual reports which would be objectionable, because of the disclosure of weapons development information, be withheld. It was not completely clear, however, that the FCDA required this information. Accordingly, the Chief of the Effects Application Branch of the Weapons Effects Division was directed by the Chief of the Division to make a staff study of this problem. This study was submitted to the Chief, Weapons Effects Division, on 30 June 1953.

In general, the policy of maintaining a distinction between the transmission of data to the FCDA by Headquarters, AFSWP, and the furnishing of information to participants in test operations appeared to offer the best solution of the problem; but the presumption that the method of furnishing information automatically maintained the distinction was open to question. It was undoubtedly true that some information obtained by representatives of the FCDA by participation in tests would be disclosed to the FCDA. In any event, it was evident that the fact that the representatives of the FCDA who participated in tests had information which had not been transmitted formally to the FCDA would continue to be a source of irritation.

i. The Need to Know.

The directive of the Chiefs of the three services regarding the furnishing to the Federal Civil Defense Administration of data on the effects of atomic weapons required that the data be furnished on a need-to-know basis. Therefore, it was necessary that Headquarters, AFSWP, obtain as good an idea as possible of the requirements of the FCDA for information. With this in mind, the Deputy Chief of Staff, Technical Services, had a general discussion with the Assistant for Civil Defense, OSD, suggesting that representatives of AFSWP participate in any meetings of the FCDA which might be useful for learning more about FCDA requirements. Mr. Sherwood B. Smith, Coordinator of Civil Defense Liaison, and Commander H. D. Davison, USN, Chief of the Effects Application Branch of the Weapons Effects Division, maintained close contact with the Assistant for Civil Defense, OSD, and attended a number of meetings at the

FCDA. The general impression gained was that the FCDA had a tremendous job, for which it was obtaining very little financial support from Congress. Therefore, the personnel available to accomplish the necessary planning was inadequate. Administrator Peterson was reported to feel that he should depend in a large measure on the existing Federal agencies rather than attempt to increase his staff sufficiently to develop the needed capability, which might be already available in other agencies. According to Public Law 920 (81st Congress, 2nd Session, approved 12 January 1951) by which the Federal Civil Defense Administration was established, the Administrator could, with the approval of the President, delegate specific responsibilities to other Federal agencies (Sec. 201(b)). The FCDA was attempting to establish definite programs for evacuation and for the construction of shelters, but it had not progressed in these studies to a point where a definite policy could be established.

j. Motion Picture of British Atomic Test.

Mr. Sherwood B. Smith, of AFSWP, attended, on 10 July 1953, a showing of an unclassified version of a British motion picture, which covered the preparation for and the conduct of the British atomic test at Monte Bello on 3 October 1952 (see Vol. V, par. 1-2e(2); also par. 1-2f(3) of this volume). Mr. Smith substituted for Admiral Parker, who had been invited by Mr. Jehu, of the British Ministry of Supply, and had been unable to attend.

k. Use of Smoke in Civil Defense.

On 16 July 1953, at the suggestion of Colonel Barnet W. Beers, USA, Assistant for Civil Defense, OSD, Mr. Sherwood B. Smith attended a meeting of the Federal Civil Defense Administration held for the purpose of planning a study of the feasibility of the use of smoke

in reducing fires which might be caused by direct thermal radiation from atomic weapons, in American cities. Colonel Beers opened the meeting and requested Lt. Colonel Truman S. Cook, CMLC, USA, to state the wishes of the Chemical Corps regarding the study. This project, known as TRAC, had been started in March 1952 and was set up in five phases: a theoretical study; the meteorological feasibility; the experimental phase, using laboratory methods; atomic tests; and economic logistic evaluation. The first four phases had been completed. The last phase was considered the most important to civil defense, and Lt. Colonel Cook stated that to carry it out it would be necessary to have the following information:

(1) Smoke generation requirement
(2) Type of control of generators
(3) Warning time to be expected
(4) Frequency of demands for use of generators
(5) Total hourly consumption of fuel
(6) Storage requirements
(7) Capital investment in the area to be protected

It was proposed that a suitable city be selected and that a paper study be made, with the assistance of the FCDA, to determine the feasibility and the economic justification for providing smoke. The work was to be divided into two phases: (1) an examination of the information available in Washington; and (2) such additional study as might be required in the particular city selected. It was agreed that the data then available in the FCDA would first be examined, after which a determination would be made of what effort would be required for the selected city. Colonel Beers stated that it would be necessary to establish the demands to be made on the personnel and financial cooperation of

the FCDA. Lt. Colonel Cook said that no positive statement could be made on these matters until after an investigation of material available in the FCDA files. Individuals in the Chemical Corps and the FCDA were named to work on this problem. Lt. Colonel Cook stated that the military services had a very strong interest in this matter and that the Chemical Corps would proceed toward the completion of Phase 5 without direct regard for the benefit to the FCDA. Subsequent to the meeting, arrangements were made for collaboration between the Chemical Corps and the FCDA in making a paper study of feasibility, using the city of St. Louis, Missouri, for the purpose. The role of the FCDA was primarily to furnish available data prepared for other purposes. The analysis and interpretaion of the results of the study were to be made by the Chemical Corps.

1. Long Range Program for Research and Development.

On 17 July 1953, Mr. Sherwood B. Smith attended a meeting at the Federal Civil Defense Administration, at which Mr. G. R. Gallagher, Assistant Administrator, Technical Advisory Service, FCDA, outlined the desire of the Administration to establish a long range program for research and development. He stated that consideration was being given to a survey of existing knowledge in order to determine the gaps to be filled by conducting tests, and that an item of $300,000 for this program was contained in the House version of the bill containing the FY 1954 funds for FCDA. The representatives of the Department of Defense stated that a requirement existed for an evaluation of the data then available and its application to the development of methods of design rather than the accomplishment of

new tests. The FCDA had decided to employ a consultant to make such a study and said that some thought had been given to the employment of Dr. L. E. Grinter, Dean of Engineering, University of Florida. At the request of the FCDA, and following consultation with representatives of the Weapons Effects Division of Headquarters, AFSWP, a recommendation was submitted to the FCDA for the employment of Dr. R. J. Hansen, Massachusetts Institute of Technology, because of his qualifications and his past experience with work for AFSWP. This recommendation was accepted by the FCDA.

At the request of the Assistant for Civil Defense, OSD, a meeting was held at Headquarters, AFSWP, on 27 August 1953, attended by representatives of the FCDA and by Dr. Hansen, to implement the evaluation of the research and development needs of the FCDA; at this meeting, the AFSWP was asked by representatives of the FCDA to give Dr. Hansen all possible assistance in this study. Headquarters, AFSWP, agreed to furnish Dr. Hansen all necessary information for the study and Mr. Smith was named as the contact for such assistance. Dr. Hansen agreed to submit a draft of his report to Headquarters, AFSWP, for security review before submission to FCDA.

On 1 and 2 October 1953, at the request of Dr. Hansen, Mr. Smith accompanied him to the University of Illinois and the Armour Research Foundation, to obtain a better idea of the progress being made in fields of interest in connection with this survey. Dr. Hansen was also furnished reports and other necessary information for the survey.

By letter dated 28 September 1953, Dr. Hansen forwarded

an outline of his proposed report, entitled "Scope of Information for Planning FCDA Shelter, Construction and Evacuation Program", which indicated the scope of the survey, and he requested permission to submit it to the FCDA (Ref. 57). He was informed by letter from Headquarters, AFSWP, dated 12 October 1953, that there was no objection to his furnishing the outline to the FCDA (Ref. 57). On 6 November 1953, Dr. Hansen forwarded a draft of the initial portion of his report for approval of submission to the FCDA (Ref. 57), and he was advised in reply, by letter dated 4 December 1953, (file SWPAV/2 384.51, Ref. 57) that the height of burst curves had been furnished to the FCDA and that transmittal of this portion of his report was approved. On 25 November 1953, Dr. Hansen submitted the second portion of his report (Ref. 57), and he was advised by letter dated 9 December 1953 (file SWPAV/2 384.51, Ref. 57), that a classification of Confidential should be given to this section of the report. Comments were also made on the inadequacy of the report.

m. Civil Effects Test Reports.

On 30 July 1953, Mr. Robert L. Corsbie, Chief, Civil Defense Liaison Branch, AEC, visited Headquarters, AFSWP, to discuss a proposed change in the method of handling the Civil Effects Test reports prepared by the FCDA. By agreement at the meeting on 13 April 1953 (see subpar. b herein above), these reports had been handled in the same manner as the diagnostic test reports prepared by the AEC. Mr. Corsbie, after further consideration, felt that it would be preferable to review these reports in draft form and to reach a decision

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as to the deletion of any material before transmission to the FCDA, and he proposed that, if transmission were concurred in, the AEC should direct Oak Ridge to furnish the required number of reports, when printed, directly to the FCDA. This procedure was not in contradiction to the directive of the Chiefs of the three services, dated 5 March 1953 (see subpar. a herein above). By letter dated 4 August 1953, Mr. Corsbie stated his proposal to Headquarters, AFSWP, in writing (Ref. 58). A letter from AFSWP, dated 14 August 1953 (file SWPAV/2 461, Ref. 58), informed Mr. Corsbie that AFSWP had no objection to the review of these reports in draft form, as an interim procedure, nor to the furnishing of the printed reports directly from Oak Ridge, after reaching agreement as to the suitability for transmission to the FCDA - provided the sensitivity of the information was not increased before the final printing, nor any other changes were made which would invalidate the review of the draft copy. This letter also stated that it was not considered that this agreement constituted an abrogation of the general understanding stated in the "Summary of AEC-AFSWP Meeting on Mutual Participation for Furnishing Weapons Test Information to the FCDA", dated 13 April 1953, referred to in subparagraph b above.

n. Protective Construction in National Defense Production.

Mr. Robert L. Applegate, of the Industrial Security Division of the Office of Domestic Security Programs, Department of Defense, advised Headquarters, AFSWP, on 6 August 1953 (Ref. 59), that the Office of Defense Mobilization had written letters to

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manufacturers involved in national defense production, inviting their attention to the need for protective construction where dispersion was not feasible, and stating that a 100% write-off was provided for the costs of protective construction measures to resist blast. Under this plan, 20% of the costs of protective construction would be written off each year for five years. It was also stated that review of plans for such construction would be made by the local Civil Defense Director.

o. Inquiry from Assistant Secretary of Defense (Research and Development).

On 11 August 1953, Lt. Colonel F. T. Bradley, USAF, a member of the Secretariat of the Committee on Atomic Energy, visited Mr. Sherwood B. Smith at Headquarters, AFSWP, to find out, informally, what was being done in the way of furnishing atomic test information to the FCDA, and how FCDA tests were coordinated with those of the Department of Defense. Lt. Colonel Bradley said that Mr. R. W. Cairns, Assistant to Mr. Donald A. Quarles, Assistant to the Secretary of Defense (Research and Development), wished this information. Lt. Colonel Bradley was informed of the directive from the Chiefs of the three services, dated 5 March 1953, which provided guidance on furnishing test information to the FCDA, as previously described herein. He was told that test planning was coordinated through two informal AEC committees, one having to do with structure tests and the other with tests of biomedical effects, following which final coordination had been made directly between the AFSWP and Mr. Robert L. Corsbie, Chief, Civil Defense Liaison, AEC, and Director, Civil Effects Test Group, of Operation UPSHOT-KNOTHOLE.

p. AEC Concurrence for Reports Containing Restricted Data.

During the visit to the Atomic Energy Commission on 12 August 1953 by Mr. Sherwood B. Smith, Mr. Robert L. Corsbie, Chief, Civil Defense Liaison, AEC, raised a question regarding the furnishing of a list of reports on blast effects on buildings, by Headquarters, AFSWP, directly to the Federal Civil Defense Administration, without the concurrence of the AEC. Mr. Corsbie pointed out that some of the reports contained Restricted Data, and the AEC objected to the listing of such reports, since the AEC might not wish to furnish them. Lt. Colonel J. H. Veyette, of the Technical Library Branch, Weapons Effects Division, Headquarters, AFSWP, checked this matter and Mr. Corsbie was informed by telephone that no reports containing Restricted Data had been listed without AEC concurrence, and that in the future nc reports containing Restricted Data would be included except with AEC concurrence.

q. Clearance of FCDA Material for Publication.

During his visit at the AEC on 12 August 1953, Mr. Sherwood B. Smith discussed with Mr. Corsbie the clearance of material of the Federal Civil Defense Administration for publication.

On 19 September 1951, Secretary of Defense Lovett had written to the Administrator, FCDA, stating that it was possible to extrapolate unclassified information from data on tests of the effects of atomic weapons, for inclusion in manuals and other publications for public release, provided that documents containing such extracted data were cleared in draft form with the Department of Defense and the Atomic Energy Commission. By letter dated 9 April 1953, to the Secretary of Defense, the Administrator,

FCDA, stated that the conditions set forth in Mr. Lovett's letter would be observed. A publication by the Federal Civil Defense Administration, entitled "Home Shelters for Family Protection in an Atomic Attack" (Ref. 60, TM 5-5), had been printed and distributed without clearance from the Department of Defense or the AEC. A memorandum from Headquarters, AFSWP, to the Assistant for Civil Defense, OSD, dated 2 September 1953, pointed out that the publication contained test information from Operation UPSHOT-KNOTHOLE, and, although there had been no compromise of security, there was a need for the establishment of a procedure for clearing such documents for public release; and the Assistant for Civil Defense, OSD, informed the Federal Civil Defense Administration that the release of this publication without clearance was unacceptable to the Department of Defense. The matter was further emphasized by General Luedecke at the meeting with the FCDA representatives on 15 October 1953.

Another publication, "Operation DOORSTEP", had been cleared by Dr. Ralph Carlisle Smith, Security Officer for Operation UPSHOT-KNOTHOLE, and by the Joint Information Task Group set up to review material for publication developed from Shot 1, UPSHOT-KNOTHOLE.

Another memorandum from Headquarters, AFSWP, dated 5 November 1953, to the Assistant for Civil Defense, OSD, suggested the desirability of having the Federal Civil Defense Administration adopt the clearance procedures which had been found to be successful by other agencies engaged in atomic energy matters. Colonel Barnet W. Beers, USA, Assistant for Civil Defense, OSD, agreed to continue to call the attention of the FCDA to the appropriateness of clearing any publication or public

release which had been developed from data on effects of atomic weapons transmitted to the FCDA by the Department of Defense in participation with the Atomic Energy Commission. On 24 November 1953, the AEC requested a review of an unclassified FCDA publication entitled "Standards and Criteria for Protective Construction, Class I Buildings", and it was approved by letter to the AEC, dated 16 December 1953.

r. JCS Policy Memorandum No. 68, "Joint Protective Construction Policy."

The Deputy Chief of Staff, Technical Services, AFSWP, had suggested to Colonel Barnet W. Beers, Assistant for Civil Defense, OSD, that it would be helpful to the Federal Civil Defense Administration, in formulating policy on protective construction for civil defense, if the policy of the Department of Defense on that subject, contained in JCS Policy Memorandum No. 68, were made available to them. Colonel Beers advised AFSWP on 19 August 1953 that he had permission to furnish that memorandum, which was entitled "Joint Protective Construction Policy", to the FCDA. Since he had been informed, however, that the AFSWP was making a study of the policy, with a view to bringing it up to date, he withheld furnishing this document for the FCDA, awaiting possible developments from the AFSWP study. Nevertheless, early in October 1953, when it appeared that a considerable amount of time might elapse before this matter could be settled, Colonel Beers personally delivered to the FCDA a copy of the JCS Policy Memorandum No. 68, re-typed in his office with the number of the memorandum omitted.

s. Meeting of 15 October 1953 - Height of Burst Curves.

Mr. Val Peterson, Administrator, FCDA, in a letter to Secretary of Defense Wilson, dated 25 August 1953, suggested that representatives of the AFSWP, the Atomic Energy Commission, and the FCDA meet to discuss the rather limited areas of disagreement with respect to the disclosure of information on atomic weapons effects tests to the FCDA by the AFSWP, particularly information on the effects of nuclear detonations of yields greater than 250 KT. Mr. Peterson named Mr. J. M. Chambers, Assistant Administrator for Planning, FCDA, to represent him in these discussions. A copy of this letter was furnished to the AEC, and, by letter dated 9 September 1953 (Ref. 61), addressed to the Chief, AFSWP, Mr. Lewis L. Strauss, Chairman, AEC, concurred in Mr. Peterson's suggestion; he appointed Mr. Robert L. Corsbie, Chief, Civil Defense Liaison Branch, AEC, as the AEC representative for such a discussion. General Luedecke discussed with Mr. Robert LeBaron, Assistant to the Secretary of Defense (Atomic Energy), on 24 September 1953, the possibility of liberalizing the policy of transmitting information on effects of atomic weapons to the FCDA, and agreed to submit a memorandum to Mr. LeBaron covering this subject. The memorandum from the Chief, AFSWP, to Mr. LeBaron, dated 25 September 1953 (Ref. 61), outlined the actions of Headquarters, AFSWP, in transmitting data to the FCDA, in accordance with the directive from the Chiefs of the three services, dated 5 March 1953. The memorandum also covered the established procedures for review of reports in collaboration with the AEC, where Restricted Data were involved; and it covered types of information which were either withheld or deleted from reports

prior to transmittal, including: yields; discussions of stockpile weapons; information on neutron flux; effects on military equipment; data on long range detection; and the "Capabilities of Atomic Weapons", which contained the height of burst curves and other material of military significance. It was pointed out to Mr. LeBaron that much information desired by the FCDA for planning purposes, such as enemy capabilities, should be obtained from other appropriate agencies, and that, pending a demonstration of further need-to-know, it was believed that the type of information on weapons effects then being provided was adequate for civil defense planning.

Following receipt of Mr. Peterson's request of 25 August 1953, for a meeting to discuss the limitations of information furnished to the FCDA by the AFSWP, and the AEC concurrence of 9 September 1953, an invitation was issued by the Office of the Secretary of Defense, on 16 September 1953, for a meeting to be held at Headquarters, AFSWP, on 15 October 1953. On 14 October 1953, the furnishing of the height of burst curves was discussed in the AFSWP by Admiral Parker, Dr. Scoville, Colonel Giller and Mr. Smith, and it was agreed that these curves should be furnished to the FCDA. General Luedecke concurred in this view.

The meeting on 15 October 1953 was attended by: the Assistant to the Secretary of Defense (Atomic Energy); the Director, Office of Domestic Security Programs, OSD; the Chief, of the AFSWP, and staff; Mr. Robert L. Corsbie, Mr. Ward Miller and Captain William Guthrie of the AEC; and Mr. Justice M. Chambers, Mr. Ralph Spear, Dr. H. Kenneth Gayer, Mr. G. R. Gallagher, and Mr. Malcolm Henderson, of the FCDA. The

results of the meeting were that the FCDA did not demonstrate a further need for information over and above that which was being furnished, that much of the information it considered to be required for planning purposes was not in the category of weapons effects but rather an estimate of enemy capabilities, and that the application of information on effects of atomic weapons by the FCDA was at fault, rather than a lack of information itself. The FCDA was informed at the meeting that AFSWP had decided to furnish the height of burst curves.

On 26 October 1953, a memorandum was sent to the Assistant for Civil Defense, OSD (Ref. 61), furnishing a draft of a letter to Mr. Peterson, confirming the general understandings reached at the meeting of 15 October 1953, pointing out that the information on weapons effects being furnished under the directive of the Chiefs of the three services (dated 5 March 1953) was adequate for civil defense planning. On 28 October 1953, curves showing the neutron radiation dosage (rem) for an upper limit condition and for a lower limit condition, applicable to a yield range of approximately 1 to 200 KT, were forwarded to the FCDA. A memorandum, dated 30 October 1953 (Ref. 61), was received from the Office of the Assistant for Civil Defense, OSD, inclosing a copy of the letter to Mr. Peterson regarding the meeting of 15 October 1953, which had been drafted in Headquarters, AFSWP, stating that no need for change in the existing directive had been demonstrated at the meeting. By letter from Headquarters, AFSWP, dated 6 November 1953 (Ref. 61), three copies of curves, entitled "Height of Burst Versus Distance from Ground Zero from Various Peak Overpressures at the Surface", were forwarded to the FCDA, with

appropriate statements indicating the sensitivity from a military standpoint, and the fact that the use of the curves should be confined to the Planning Staff on a need-to-know basis.

t. Publication on Advantages of Underground Construction.

Mr. Robert L. Applegate, of the Industrial Security Division of the Office of Domestic Security Programs, Department of Defense, visited Headquarters, AFSWP, on 31 August 1953, to discuss plans for a publication on the advantages of underground construction, to be distributed to manufacturers having important Department of Defense contracts. Upon completion of a draft of this publication, Mr. Applegate indicated a desire that it should be reviewed by Headquarters, AFSWP, and the Office of the Chief of Engineers. Lt. Colonel Bruce D. Jones, USA, of Weapons Effects Division, AFSWP, and Mr. Sherwood B. Smith reviewed the draft and recommended informally that the Office, Chief of Engineers, be asked to prepare a better technical publication.

u. Blast Overpressure vs. Distance.

A letter from the Federal Civil Defense Administration, dated 1 September 1953 (Ref. 62), forwarded plotted curves of reflected pressures on the ground, versus distance from ground zero, for a megaton bomb exploded at various heights, which had been computed by the Planning Staff of the FCDA. In the reply, dated 10 November 1953, the FCDA was informed that the height of burst curves furnished separately would provide a means of checking their curves, except in the areas close to ground zero, where overpressures exceeded 50 psi. There was forwarded, with this reply, "Standard Representation of Free Air Overpressures Versus Slant Range for

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1 KT (RC) at Sea Level", for use in establishing overpressures greater than 50 psi.

v. Assumed Yield of Bomb for Planning.

At a meeting in the office of Colonel Beers, OSD, on 14 September 1953, Lt. Colonel Raymond P. Campbell, Jr., USA, Division of Military Application, AEC, stated that the Chairman, AEC, had received a letter from Mr. J. M. Chambers, Assistant for Planning, FCDA, in which he discussed the planning requirements of the FCDA and requested concurrence in a proposal to change the yield of the bomb used for assuming damage from a 50 KT to an [redacted] Mr. Chambers indicated that the proposed figure had been approved by the Central Intelligence Agency. Mr. Corsbie of the AEC indicated that the AEC opposed the use of the [redacted] KT figure. After some discussion, Lt. Colonel Campbell proposed that a reply be made to the FCDA stating that the AEC preferred the use of the term "50 to 100 KT", for security reasons, and that its comment on yield was limited to tactical capability. It was suggested that the reply be coordinated with the Department of Defense, and, on 16 September 1953, Lt. Colonel Campbell brought a draft of a reply to Headquarters, AFSWP, to clear it informally before coordination with Mr. Ralph N. Stohl, Director, Office of Domestic Security, OSD. Captain Bert F. Brown, USN, Deputy Chief of Staff, Technical Services, AFSWP, informed Lt. Colonel Campbell that the proposed reply was satisfactory, but that release of information representing estimates of capabilities should be cleared with the Department of Defense. On 22 September 1953, Colonel Beers returned the draft reply to the AEC, stating that Mr. LeBaron, Assistant to the

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Secretary of Defense (Atomic Energy), concurred in it, provided a paragraph were added to the effect that any public statement about enemy capabilities should be cleared with the Department of Defense.

w. Tests for NATO Nations.

Commander Guy J. Anderson, USN, Division of Military Application, AEC, advised Headquarters, AFSWP, on 15 October 1953, that the Atomic Energy Commission had received a request from Mr. Val Peterson, Administrator, FCDA, to permit NATO (North Atlantic Treaty Organization) nations to include material of their own, for testing, in the United States atomic tests, in order to obtain necessary information from a civil defense standpoint. A draft reply placed severe restrictions on such action, requiring that the entire matter be handled by the FCDA, without participation by any foreign nation, and that all costs be paid by the nations concerned. Admiral Parker questioned the advisability of making any offer to foreign nations to include civil defense material in atomic tests because of a possible disturbance to negotiations then in progress with the British regarding the exchange of information on the effects of atomic weapons. This matter was taken to General Luedecke, who discussed it with Mr. LeBaron.

x. Classification of Project EAST RIVER, Part III.

By memorandum from the Office of the Assistant for Civil Defense, OSD, dated 23 November 1953 (Ref. 63), Headquarters, AFSWP, was requested to review Part III of Project EAST RIVER, entitled "Destructive Threat of Atomic Weapons", then classified Secret, with respect to the possibility of downgrading or removing the classification entirely. Following review of a report by the Security Division, and discussions in

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Headquarters, AFSWP, Colonel Beers was informed, by memorandum dated 31 December 1953, that in its present form the report should retain a classification of Secret, and that nothing short of a complete re-writing of the report could serve to delete material requiring that classification. It was explained that members of Project EAST RIVER were given thorough briefings by the Department of Defense, that they had access to much material which was still highly sensitive, and that these circumstances were of necessity reflected in the assumptions and estimates in the report.

y. Briefing of Life Insurance Officials.

On 30 November 1953, Colonel Beers, OSD, discussed with Admiral Parker a request by the Federal Civil Defense Administration that three officials of life insurance companies be briefed by the AFSWP on effects of atomic weapons. The intelligence evaluation would be discussed by the Central Intelligence Agency; air defense by the Air Force; and effects by the AFSWP. Colonel Beers thought that the FCDA should hold their own briefings, to which Admiral Parker agreed. In order to assist the FCDA in development of a capability for this briefing and for similar briefings in the future, however, Admiral Parker agreed to help the FCDA in their preparation. A tentative date for the briefing of the FCDA was set as the end of January 1954; Colonel Beers agreed to proceed along the lines which had been discussed, and to keep Admiral Parker advised.

z. Liaison.

In discussion with Admiral Parker, General Luedecke gave approval to the provision of technical liaison with the representatives of

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the Federal Civil Defense Administration during preliminary discussions of the Effects Test Programs; it was also agreed that Headquarters, AFSWP, should conduct discussions with the Division of Military Application of the Atomic Energy Commission, regarding the test organization, before further discussions with the FCDA. Accordingly, invitations were extended by telephone, on 18 December 1953, to representatives of the FCDA and of the AEC to attend a conference at Headquarters, AFSWP, on 5 January 1954, to discuss the status of the planning by AFSWP for military participation in TEAPOT, and to obtain for the AFSWP information concerning planning by the FCDA, with a view toward comparing projects, to avoid duplication.

It was suggested by Colonel Beers, OSD, that representatives of Headquarters, AFSWP, attend appropriate meetings of the FCDA, to determine what the planning requirements of the FCDA were and to furnish guidance on the availability of information. On 23 December 1953, Commander H. D. Davison, USN, of the Effects Application Branch of the Weapons Effects Division, AFSWP, and Mr. Sherwood B. Smith, Coordinator, AFSWP, attended a meeting at the FCDA which inaugurated a program of weekly liaison visits for the purpose of discussing any particular problems.

(Ref. 64, Incl. with memos. to Historian, AFSWP, from Mr. Sherwood B. Smith, Technical Adviser, AFSWP, and Coordinator with FCDA, 3 August 53 and 5 February 54, "History of AFSWP. . .")

3-3-8. Design of AEC Production Facilities to Reduce Vulnerability.

As in previous years, in accordance with the request of the Joint Chiefs of Staff, and with the terms of reference which they had established, the Military Liaison Committee continued throughout the year 1953 to coordinate with the Atomic Energy Commission on matters pertaining

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to the design of production facilities, in the interest of reducing vulnerability to atomic attack. (See Vol. V, par. 3-3-6.) General Loper, as Chief of AFSWP, had been asked by the Chairman of the Military Liaison Committee, in January 1951, to act for the committee in this coordination, and he was assisted by Mr. Richard G. Grassy of the Physical Vulnerability Division, Headquarters, USAF, and by Mr. Sherwood B. Smith of Headquarters, AFSWP. Upon the retirement of General Loper, General Luedecke, the new Chief of AFSWP, assumed this responsibility, on 12 June 1953. Mr. Grassy and Mr. Smith continued to give technical advice to the Atomic Energy Commission in developing plans which would, later, become the subject of formal action by the Military Liaison Committee.

A meeting was held at the Atomic Energy Commission on 5 March 1953, to discuss suggestions made by Mr. Grassy and Mr. Smith with respect to the reduction of vulnerability of Plant X and the additions to plants at Oak Ridge, Tennessee, and Paducah, Kentucky. The meeting was attended by representatives of the Construction and Supply Division and the Production Division of the AEC. With reference to the suggestions made at the meeting of 4 December 1952, by Mr. Grassy and Mr. Smith, it was stated that the cost of strengthening the steel framework of the electrical switchyards at Plant X would be $550,000 in one case and $600,000 in the other. It developed during the discussion that the total cost of the steel framework was $125,000, so that an estimate of four or five times the basic cost seemed to be excessive. The estimated cost of providing protection for the low voltage switch gear, at one sub-station,

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was stated to be $1,300,000 and, at the other, $1,600,000. With reference to the matter of reducing vulnerability by providing greater flexibility and a limited number of spare parts, it was stated that steps would be taken to accomplish this.

In view of the very high estimated cost of the modifications to the electrical switchyards, it was agreed by the Atomic Energy Commission that reconsideration of the estimates would be in order. It was stated that this matter would be taken up with the Manager at Oak Ridge, who had the responsibility for the design of Plant X and the additions at Paducah and Oak Ridge.

On 20 April 1953, Mr. M. W. Boyer, General Manager of the AEC, addressed a letter to General Loper (Ref. 65, File CSCE:E:RWA) classified Secret, Restricted Data, referring to General Loper's letter of 23 December 1952 (see Vol. V, par. 3-3-6). Mr. Boyer stated in his letter that the increased cost for strengthening the structural overhead frame would amount to a total of $325,000 for both of the electrical switchyards at Plant X, and the cost of protecting the two sets of air circuit breakers with a concrete wall, from the top of the breakers down to grade, would amount to $1,650,000. He stated that the cost of similar revisions at Oak Ridge and Paducah would be comparable; and he added that revisions necessary to accomplish this work would delay the completion of detailed drawings for Plant X two months and would cause similar delays for the projects at Paducah and Oak Ridge. In view of the economy drive and the status of construction in relation to production schedules, the Commission felt that these revisions would

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result in unjustifiable costs and unwarranted delays; but it was stated that the interchangeability of critical parts and the stocking of spare parts would be provided for to the fullest extent practicable.

In view of the position taken by the Atomic Energy Commission and the fact that the Department of Defense was acting in an advisory capacity, it was decided that no benefit would be achieved by pursuing further the matter of providing increased protection for the electrical switchyards. Accordingly, a memorandum was sent to the Chairman, Military Liaison Committee, dated 7 May 1953 (Ref. 66, File SWPTA 381, "Detailed Examination of Site Plans for Gaseous Diffusion Plant X and Expansions at Oak Ridge, Tennessee, and Paducah, Kentucky"), setting forth the facts and inclosing the letter from Mr. Boyer, General Manager, AEC, described above. It was stated that nothing would be gained by pursuing further the matter of reducing the vulnerability of the sub-stations and it was recommended that the decision of the Atomic Energy Commission be accepted, and no further action be taken.

When the question of the design of the "105" buildings at Savannah River arose, a static equivalent load of 1000 pounds per square foot had been established as a basis for planning. It was realized that a static load was not an entirely satisfactory basis for design but this assumption had been necessary because of lack of time. Accordingly, Mr. Smith had suggested that the firm of Ammann and Whitney, Consulting Engineers, of New York, be employed to determine the dynamic design requirements for these structures, to ~~visit~~ resist a 20 pound overpressure. (See Vol. V, par. 3-3-6.) By letter dated 27 July 1953, the Division of Construction

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and Supply, AEC, forwarded Amman and Whitney's final report, entitled "Evaluation of Blast Resistance and Design Recommendations for the 105R and 105L Buildings", Volumes I and II, for the information of and retention by Headquarters, AFSWP; the appreciation of the Savannah River Operations people was expressed, for the cooperation and assistance of Mr. Smith in developing the design criteria. While the schedule did not permit the use of this information for the initial buildings, it was employed in the design of the remainder of those to be constructed. As indicated previously (Vol. V, par. 3-3-6), the assumed static load, of 1000 pounds per square foot, was shown to be conservative, and savings could be made in steel reinforcement by the use of dynamic design criteria.

(Ref. 64, Incl. with memos. to Historian, AFSWP, from Mr. Sherwood B. Smith, Technical Advisor, AFSWP, 3 Aug 53 and 5 Feb 54, "History of AFSWP. . .")

3-3-9. Structures Test Planning and Screening Committee.

A meeting of the Structures Test Planning and Screening Committee of the Atomic Energy Commission (see Vol. V, par. 3-3-7) was held on 29 September 1953, for the purpose of reviewing the Civil Effects tests of UPSHOT-KNOTHOLE in relation to future test requirements. The meeting was attended by Mr. Sherwood B. Smith of Headquarters, AFSWP, acting in an advisory capacity. Mr. Robert L. Corsbie, AEC, Chairman, opened the meeting by re-stating the functions of the committee, which were:

a. To receive statements of requirements of experiments from all agencies concerned with structural experiments in tests involving atomic weapons.

b. To analyze such requirements in order to formulate programs of greatest scientific and engineering reliability.

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c. By informal discussions with submitting agencies, to develop and refine an experimental program so that their needs were met in relation to the feasibility expressed by the test organization.

d. To present the detailed plans of the structures experiments for a particular test in such form that they might be approved by the Atomic Energy Commission and transmitted to the test organization for implementation, without further discussion.

e. To maintain a continuous planning function well in advance of any known test and to make continual revision of plans in the light of changing needs and information.

f. To prepare estimates of cost of conducting each experiment, to formulate a distributed budget for the entire non-military structures section of each test, and to specify the funds and the sources from which they should be transferred.

Mr. Corsbie stated during the meeting that the authority for the committee was contained in directives he received from the Manager of the Atomic Energy Commission, whose concern was to develop a feasible program which did not over-lap that of the military. This result had been accomplished prior to UPSHOT-KNOTHOLE by informal discussions among representatives of the Atomic Energy Commission, the Department of Defense, and civil agencies.

Mr. Corsbie reviewed the Civil Effects tests of UPSHOT-KNOTHOLE and stated that all programs were successfully completed and that the progress in completion of the reports of the Civil Effects Test Group was considered to be satisfactory. Mr. Sherwood B. Smith was asked about the military participation and he stated that the preliminary military reports had been completed and distributed, and that an evaluation of weapons effects in general was being carried out by Headquarters, AFSWP, to determine the need for additional information.

The committee was informed by Mr. A. E. Gorman, of the Reactor

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Development Division, AEC, that a study by the Illinois Steel Company of the vulnerability of water tanks to blast was nearing completion; and that a contract had been made with Harvard University to determine the effect of blast on ducts and filtering systems of AEC production plants.

Commander G. J. Anderson, USN, of the Division of Military Application, AEC, outlined the plans of the AEC for future tests, which he summed up as follows: no continental tests were contemplated before the fall of 1954; Operation DOMINO had been cancelled; Operation CASTLE was scheduled for the spring of 1954, overseas; Operation TEAPOT was scheduled for the fall of 1954, at Nevada Proving Grounds; Operation REDWING was scheduled for the fall of 1955, overseas; Operation HARDTACK was scheduled for the spring of 1956, at Nevada Proving Grounds. He indicated that there was a possibility of crash programs for development purposes.

The plans and requirements of the Federal Civil Defense Administration for future tests were outlined by Mr. H. L. Goodwin, Planning Staff, FCDA, who stated the need for testing a variety of dwellings and shelters, to provide information necessary for the analysis of modern types of construction and materials, and to provide bio-medical data relative to the probability of survival in such structures. The items requiring test included: shelters or other structures which resisted but did not exclude bomb-generated overpressures; house-type trailers and other vehicles; improved models of air zero locators; components of buildings; services and utility systems.

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Mr. W. C. Clark, of the Public Buildings Service, indicated a continuing need for information on methods of design to resist blast, which could be used by the engineers of his organization. He expressed the desire to include in the tests a wing of an office building, to obtain further information on methods of protection against flying glass and on curtains of special design. The Public Buildings Service and the Federal Civil Defense Administration were to collaborate in developing a test program.

Although no clear-cut plan was presented for actually comparing the programs of the Civil Effects Test Group and the military programs, Mr. Corsbie stated that the Division of Military Application, AEC, would be required to certify for every Civil Effects Test project that it was not a duplication of a military project. It was apparent that the final coordination was considered to be a responsibility of the Scientific Director.

(Ref. 64 , Incl. with memos, to Historian, AFSWP, from Mr. Sherwood B. Smith, Technical Adviser, AFSWP, 3 Aug 53 and 5 Feb 54, "History of AFSWP. . .")

3-3-10. Materials Office.

As previously stated (see par. 3-2-4e), Captain Glenn S. Brunson, Jr., Ord C, USA, served as Materials Officer from the establishment of the Materials Office, on 20 July 1953, throughout the rest of the year. Arthur J. Stephens, YN1, USN, was assigned as Administrative Supervisor.

The functions of the materials office (as set forth officially in the January 1954 edition of "Organization and Functions" of Headquarters,

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AFSWP) have been quoted, in paragraph 3-2-5i. In general, the mission of the Materials Office was to provide the AFSWP with detailed information on materials which were important to the atomic energy program; an additional responsibility was to follow the various reactor programs.

The principal activity of the office during 1953 was gathering background information by tours of installations of the Atomic Energy Commission, and study of the literature on atomic energy.

A briefing on the production of plutonium was presented before senior officers of Headquarters, AFSWP, on 23 November 1953.

As an additional duty, Captain Brunson served as assistant to Admiral Parker in discharging his responsibilities as Department of Defense member of the Combined Policy Committee Subgroup of Scientific Advisers (see par. 3-3-2 above).

(Ref. 67, Memo for Historian, AFSWP, from Capt. G. S. Brunson, USA, dated 26 Jan 54, "History of Materials Office for Period 20 July 1953 to 31 December 1953".)

3-3-11. Surgeon.

The office of the Surgeon, AFSWP, had been established for the first time on 28 November 1951, as recorded in a previous volume of this History (see Vol. IV, par. 3-1-2b). The surgeon and his staff continued during 1953 to exercise staff supervision over the medical activities of the AFSWP, reporting to the Chief of Staff, AFSWP (as set forth in par. 3-2-5k above). (They also continued to constitute the Medical Branch, which was first a part of the Weapons Defense Division, and later, after that Division had been abolished, of the Weapons Effects Division; their activities in that capacity will be described in later sections of

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this chapter, which deal with those divisions; see par. 3-9-4 and 3-8-6.)

The activities of the surgeon and his staff will be recorded here under suitable headings.

a. Assistant Secretary of Defense (Health and Medical).

The Surgeon participated in briefings for members of the staff of the Assistant Secretary of Defense (Health and Medical) and arranged for their attendance at Operation UPSHOT-KNOTHOLE. Dr. Melvin A. Casberg, the Assistant Secretary, and members of his staff were briefed on the current status of research and allied subjects.

b. Research and Development Board.

The eleventh meeting of the Joint Panel on the Medical Aspects of Atomic Warfare of the Research and Development Board was held at the Naval Research Institute and in the Pentagon on 7, 8 and 9 January 1953. Technical estimates for the fiscal year were written, and the current status of all medical research in the field of atomic energy was summarized.

c. Weapons Systems Evaluation Group.

The Surgeon served for six months, during the first half of the year 1953, on temporary duty with the Weapons Systems Evaluation Group, as medical consultant on radiological warfare problems.

d. United States Army.

On 24 February 1953, the Surgeon attended a conference of all Army Surgeons and lectured on the medical problems associated with atomic energy.

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During visits of personnel of the Army Field Forces to Headquarters, AFSWP, in the first half of 1953, the general problem of orientation in the medical aspects of atomic weapons was discussed, and the following procedures and changes were decided upon: (1) the one-week course at Walter Reed Army Hospital, aimed at orientation of medical personnel of the services - the Army, the Navy, and the Air Force - was discontinued; this course had been set up originally by AFSWP in 1947 and more than 3,000 medical officers had been indoctrinated; (2) liaison activities with G-4, relative to Army research programs, were continued.

On 5 May 1953, the Surgeon discussed the medical lecture at the Army Orientation Course, Fort Bliss, Texas, and transmitted the latest medical information on the subject.

During the second half of the year, Lt. Colonel Hartgering (then the Surgeon) reviewed and edited the manuscript by Dr. Ashley Oughterson, entitled "Medical Effects of the Atomic Bomb". This manuscript was a complete compilation of the six volumes on the "Medical Effects of Atomic Bombs" and was to be published as a joint project of the Surgeon General of the Army and the Atomic Energy Commission.

On 7 July 1953, Lt. Colonel Hartgering visited Headquarters of Army Field Forces to discuss troop participation in weapons tests, with the Surgeon, Army Field Forces, and in order to brief the members of that headquarters on recently acquired data on effects of atomic weapons.

The OCAFF (Office Chief, Army Field Forces) training film project No. 10518 was reviewed, on 13 July 1953, for the Chief, Army Field Forces.

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From 15 to 17 July 1953 Lt. Colonel Hartgering conferred with members of the Army Medical Service Graduate School about the establishment of a course on the effects of atomic weapons for senior medical staff officers. On 22 October 1953, Lt. Colonel Browning (then the Surgeon) delivered a lecture to a group of medical officers at the Army Medical Service Graduate School.

Liaison with the Office of the Assistant Chief of Staff, G-4, was maintained during the year through frequent conferences with their medical representative, Major Donald H. Behrens, MC, USA. On 16 December 1953, Lt. Colonel Browning (then the Surgeon) participated in a conference attended by representatives of all Army technical services. The purpose of this conference was to establish the Army position with respect to the establishment of the U. S. Naval Radiological Defense Laboratory as a tri-service laboratory.

e. United States Navy.

Throughout the year 1953, the Surgeon continued liaison with Naval personnel, and conducted briefings on problems associated with the duties of Surgeons at the Naval Special Weapons Sites.

f. United States Air Force.

The Surgeon continued, during the year 1953, coordination for Site Surgeons at Air Force Sites and arranged for their necessary indoctrination at Sandia Base.

g. Office of the Presidential Physician.

During the early part of the year, the Surgeon discussed with the office of the Presidential Physician the stockpiling of medical

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supplies for the White House, to be used in the event of a disaster.

h. Field Command, AFSWP.

A number of conferences on the proposed expansion of the U. S. Army Hospital at Sandia Base were held throughout the first half of the year 1953. Also, during the second half of the year the proposed addition to the hospital was the subject of numerous conferences with members of the Hospital Branch of the Office of the Surgeon General, USA, as well as with representatives of the Corps of Engineers and with the architect-engineer responsible for planning the new construction. The expansion was to increase the bed capacity of the hospital from 150 to 300 beds, and Headquarters, AFSWP, had reprogrammed money so that $2,600,000 was available for the construction. The money had not yet been authorized, however. It was agreed that the Office of the Surgeon General, USA, would indorse the construction of the 150-bed addition to the existing installation and would defend this construction before the Bureau of the Budget.

The Surgeon arranged, through the Field Command Surgeon, for medical coverage of Operation UPSHOT-KNOTHOLE. This coverage was accomplished by rotation of medical officers from the Services through the test site at intervals of two weeks. This program served to give the necessary medical support, plus indoctrination of 15 service medical officers.

On 5 August 1953, a conference was held at the Preventive Medicine Branch, Office of the Surgeon General, USA, concerning plans for a swimming pool to be constructed by the Officers Mess, at Sandia Base.

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During the year 1953 there was a marked increase in the civilian disabling injury rate at Field Command installations. It was recommended by the Surgeon that a study be initiated to determine the causative factors of this increase.

An increase in the venereal disease rate at Field Command installations was reported in 1953. It was recommended that appropriate steps be taken to correct the underlying factors which accompany any such increase. To maintain high morale at the sites, it was recommended that improved and increased recreational facilities be provided for in the new construction program, and that gymnasiums and swimming pools be provided within the sites, where feasible and appropriate.

i. Headquarters, AFSWP.

In line with a recommendation of the Tri-Services Manpower Board, three of the four medical officer billets at Los Alamos Scientific Laboratory were terminated. In order to maintain continuing liaison with the laboratory and to provide the opportunity for advanced training of medical corps officers in the field, it was deemed essential that at least two spaces be retained at the laboratory; accordingly, correspondence was initiated, before the end of the year, through the Office of the Surgeon General, USA, and G-1 and G-4, for reinstatement of one of the terminated billets.

A conference was held with Brig. General James P. Cooney, MC, USA, on 13 October 1953, concerning the medical officer billets at Los Alamos Scientific Laboratory and the general subject of utilization

of personnel designated as Radiological Defense Medical Officers (with Military Occupational Specialty, MOS 3004).

Lt. Colonel Browning, Surgeon, and Major Miller, Assistant Surgeon, took part in the personnel orientation conducted at Headquarters, AFSWP, during the period 1 to 4 December 1953.

Lt. Colonel Browning attended a conference at the Office of the Surgeon General, USA, with Colonel O. Elliott Ursin, MC, USA, of that office, on 22 December 1953, on the subject of a career pattern for radiological defense medical officers and on the best means of utilizing these officers in line with current requirements.

j. Atomic Energy Commission.

Close liaison and cooperation were maintained during the year 1953 with the Division of Biology and Medicine of the Atomic Energy Commission, in the coordination of research projects with the Commission's programs. On 12 September 1953, Lt. Colonel Browning attended a conference on Project GABRIEL, sponsored by the Division of Biology and Medicine.

k. Atomic Bomb Casualty Commission.

Lt. Colonel Browning, on 13 September 1953, took part in a conference with the Atomic Bomb Casualty Commission, at which the entire research program of that Commission was discussed and the future interests of the Commission were established. On 19 October 1953, Dr. Grant Taylor, Director of the Atomic Bomb Casualty Commission, visited the office of the Surgeon, AFSWP, and enlisted his assistance in obtaining service personnel for future research on atomic bomb casualties at Nagasaki.

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l. National Institutes of Health.

The Office of the Surgeon, AFSWP, maintained memberships on the Committee on Radiation Studies of the National Institutes of Health, and Lt. Colonel Browning took part in a meeting, on 12 October 1953, at which the research program of the Office of Health, Education and Welfare was discussed.

m. U. S. Public Health Service.

On 15 October 1953, the Surgeon, Lt. Colonel Browning, and the Assistant Surgeon, Major Miller, conferred with Mr. James Terrill of the U. S. Public Health Service concerning the fall-out problem in the environs of the Nevada Proving Grounds. The position of the military services and the Public Health Service in maintaining good public relations with residents of the Utah-Nevada area was discussed.

n. Travel.

Travel of the Surgeon, AFSWP, during the year 1953, included the trips tabulated below:

Lt. Col. G. M. McDonnel, MC, USA.

13 February 1953:	To Albuquerque, New Mexico, to discuss the new out-patient clinic.
1-3 April 1953:	To San Antonio, Texas, to discuss the effects of high dose radiation.
15 May 1953:	To Los Alamos, New Mexico, to discuss care of military personnel stationed at Los Alamos.

Lt. Col. James B. Hartgering, MC, USA.

31 May 1953:	To New York to attend meetings sponsored by the Council on Emergency Medical Care of the American Medical Association.

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7 July 1953: To Headquarters, Army Field Forces, Fort Monroe, Virginia, for the purpose of briefing the Surgeon, AFF.

Lt. Col. Louis E. Browning, MC, USA.

29-31 October 1953: To the Office of the Division Engineer, Dallas, Texas, to attend a conference to discuss the architect's drawings for the proposed addition to the U. S. Army Hospital, Sandia Base.

9 December 1953: To Poughkeepsie, New York, at the request of the Surgeon General, USA, to deliver a talk before the Duchess County Medical Society.

o. Personnel.

The staff of the Surgeon, AFSWP, at the beginning of the year 1953 consisted of:

Lt. Colonel G. M. McDonnel, MC, USA, Surgeon
Lt. Colonel J. B. Hartgering, MC, USA, Assistant Surgeon
Miss M. L. Jones, Secretary
Captain Robert W. Miller, MC, USA, on detached service at the University of Rochester.
Lieutenant Robert Q. Marston, MC, USA, on detached service at the National Institutes of Health.

The following changes in personnel occurred during the year:

Lt. Col. McDonnel left Headquarters, AFSWP, on another assignment, on 30 June 1953, and he was succeeded as Surgeon, AFSWP, by Lt. Colonel Hartgering; Lt. Colonel Hartgering left the Project on 23 September 1953 and was succeeded as Surgeon, the next day, 24 September 1953, by Lt. Col. Louis E. Browning, MC, USA, who had reported to Headquarters, AFSWP, on 1 May 1953 and had served as Assistant Surgeon from 30 June until 24 September 1953. Lt. Colonel Browning was succeeded, as

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Assistant Surgeon, on 24 September 1953, by Major Richard K. Miller, USAF (MC), who had come to Headquarters, AFSWP, on 18 September 1953.

Captain Miller (on detached service at the University of Rochester) ceased to be enrolled with the AFSWP on 2 March 1953.

Lieutenant Marston left the Project on 22 June 1953.

Miss M. L. Jones left the Project on 15 June 1953 and was succeeded, on 25 June 1953, by Mrs. M. Wiggins.

At the end of the year 1953, therefore, the personnel of the Surgeon's office consisted of the following:

Lt. Colonel Louis E. Browning, MC, USA, Surgeon
Major Richard K. Miller, USAF (MC), Assistant Surgeon
Mrs. M. Wiggins, Secretary

The Liaison Officer from the Surgeon General of the Navy, throughout the year, was Commander H. S. Etter, USN; and the Liaison Officer from the Air Force, was Major S. E. Lifton, USAF (MC), who succeeded Major G. L. Hekhuis, USAF (MC), on 1 January 1953.

(Ref. 68, "History of the Office of the Surgeon", "1 January - 30 June 1953" and "1 July - 31 December 1953", forwarded to Historian, AFSWP, by memos dated 3 August 1953 and 15 January 1954, respectively.)

3-3-12. Technical Director.

The official functions of the Technical Director, AFSWP, have been recorded in a previous paragraph of the History (see par. 3-2-5f). It has also been stated previously (in par. 3-2-4b) that Dr. Herbert Scoville, Jr., continued to serve as Technical Director throughout the year 1953 and that he continued to serve also as technical adviser to the Chief, AFSWP, and as a member of the Radiation Branch of the Weapons Effects Division. Some of the activities of the Technical

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Director which are here described may be said to supplement those of the Technical Divisions, particularly the activities of the Weapons Effects Division, recorded in Section 8 of this chapter.

On 29 and 30 January 1953, the Technical Director served as the chairman of an AFSWP Symposium on Air Blast. The specific objective of this symposium was to present and evaluate the results of the TUMBLER series of which Dr. Scoville had served as Scientific Director for the Military Effects Tests. Following the symposium, the AFSWP Height of Burst Panel held a meeting to recommend research programs in this field. (See par. 3-8-3g.)

In April 1953, the Technical Director prepared a staff study for submission to the Assistant Secretary of Defense (Atomic Energy) on the reduction of expenditures in atomic-weapons test programs. This study, which was made at the request of the Security Council, furnished recommendations of ways in which expenditures might be reduced without sacrificing the essential objectives of these tests. These reductions, which totaled approximately $40,000,000 in Fiscal Year 1954-1955, would, however, result in the loss of much useful information to the Department of Defense.

The Technical Director participated in Operation UPSHOT-KNOTHOLE as an adviser to Dr. E. B. Doll and Colonel Huntington K. Gilbert, during the spring of 1953. Following the completion of the tests, he participated in a number of briefings on the results of the operation, such as those of the Committee on Atomic Energy of the Research and Development Board, and of the General Advisory Committee to the Atomic Energy Commission. He also assisted in the preparation of various films summarizing the experimental programs.

The Technical Director participated in the technical planning for Operation CASTLE, to be held at Eniwetok in the spring of 1954. After the preparation of the test program, Dr. Scoville presented it to the Committee on Atomic Energy of the Research and Development Board, in order to obtain approval for the release of the necessary funds.

The Technical Director collaborated on the preparation of a report (AFSWP-501) on the radioactive fall-out to be expected from detonations in the rain. This report was prepared in answer to a request from the Joint Chiefs of Staff. In July, he attended a conference at the Rand Corporation related to problems of world-wide radioactive contamination following atomic explosions. (See par. 3-8-2c.)

Dr. Scoville also participated in discussions on radiological defense at the 5th Tripartite meeting at the Army Chemical Center on 28 and 29 September 1953. (Ref. 69)

3-3-13. Inspector General.

The official functions of the Inspector General, AFSWP, have been recorded in a previous paragraph of the History (see par. 3-2-5c). His activities, during the year 1953, may be divided into four categories: Annual General Inspection of Headquarters, Field Command; Special Action; Annual General Inspection of Kansas City Area Office; and Routine Activities. These activities will be described in the subparagraphs which follow, under their appropriate headings; and they will be followed by a statement of personnel.

a. Annual General Inspection of Headquarters, Field Command.

The Inspector General, AFSWP, conducted the annual

general inspection of Field Command Headquarters, AFSWP, a Class II installation at Sandia Base, during the period 8 June to 11 June 1953. Field Command was under the control of the Chief, AFSWP, and the inspection was conducted in accordance with paragraph 3 of Army Regulations 20-10.

This annual inspection differed from those conducted previously in that the offices of the Inspector General and the Comptroller, and the Purchasing and Contracting Office, of Headquarters, Field Command, were inspected for the first time since their activation on 1 May 1953.

The following matters were high-lighted by the inspection:

(1) The authorized total strength of Field Command was at that time 8,638, consisting of officers and enlisted men of all the three services, including the Marine Corps. As of 7 June 1953, the morning reports showed a total of 9,508 military personnel assigned to Field Command. The personnel comprising this apparent overage (of 870 persons) were not properly chargeable to the Field Command quota; they consisted of students in training and personnel awaiting clearance or assignment. Action was taken to correct this apparent overage.

(2) Field Command was also authorized 1,666 civilian spaces of the Department of the Army at that time. No count of the number of civilians present in Field Command was made by the Inspector General, but the records available showed that the total civilian strength for all the activities of Headquarters, Field Command, was

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1,612 on the day of inspection.

(3) Of the staff sections inspected, the activities covered by this inspection included: organization, administration of units; records; morale; military discipline and courtesy; handling of classified documents; economical, efficient and lawful expenditure of funds; supply economy; and condition of accounts pertaining to appropriated and non-appropriated funds.

(4) It was noted by the Inspector General that Headquarters, Field Command, had not been conducting an annual general inspection of Headquarters, Sandia Base, as required by Army Regulations 20-10. Paragraph 10 of these Regulations provided that "the Commander of a command, installation or activity whose staff includes an inspector general will be responsible for annual general inspections . . . of all elements of such command, installation or activity not exempted from inspection by direction of higher authority."

(5) The Purchasing and Contracting Officer had not generally been notifying unsuccessful bidders that their bids were not accepted, nor had these bidders been extended the appreciation of the purchasing office for the interest shown in submitting their bids. Such action was required by Army Procurement Regulations, paragraph 2-407.

(6) The Inspector General noted that the physical facilities provided for the Procurement Branch for opening and reading bids and for the efficient conduct of business by the buyers were inadequate.

The Inspector General concluded that, with the

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exception of the deficiencies described above, each of the functions inspected was properly staffed and was performing its administrative mission, in support of the mission of Field Command, in a very satisfactory manner. Accordingly, the Inspector General made the following recommendations:

(a) That the Field Command Inspector General conduct an annual inspection of Sandia Base;

(b) That the Purchasing and Contracting Officer notify unsuccessful bidders as required by Army Procurement Regulations;

(c) That consideration be given to improving the physical facilities in the Purchasing and Contracting Office for the conduct of business by buyers and for opening and reading of bids to the interested attending bidders.

b. Special Action.

In March, 1953, Field Command advised Headquarters, AFSWP, that Headquarters, Marine Corps, had conducted an Inspector General's inspection of Marine personnel at Clarksville Base. The Marine Corps Headquarters, Department of the Navy, was advised that since the AFSWP was a joint activity of the Army, the Navy and the Air Force, and did not come under the direct command jurisdiction of any one service, Inspector General inspections should be conducted solely by the AFSWP. It was agreed that routine administrative matters of the Commanding Officer, Marine Barracks, were the function of Headquarters, Marine Corps, and were subject to so-called Administrative Inspections by that headquarters. Instructions were issued to define these matters; they included:

(1) Personnel transfers, replacements, advancements,

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reenlistments.

(2) Accounting for clothing, equipment and standard supplies.

(3) Training organic to the Marine Corps.

(4) Welfare and recreation.

(Ref. 70, TWX FCCG 3-5257, Field Command to Hq, AFSWP, file 333 control No. 2236, Secret, dated 23 March 1953; Ref. 70, Letter, Hq, AFSWP, to Hq, Marine Corps, Dept. of Navy, file SWPSA 333, dated 29 April 1953, "Inspection of Marine Barracks, Clarksville Base, Clarksville, Tennessee"; Ref. 70, Letter, Hq., Marine Corps, file AS-154-gcb, dated 26 May 1953, "Marine Barracks, Clarksville Base, Clarksville, Tennessee", with 1st Ind by CNO and 2nd Ind by Hq, AFSWP, dated 2 July 1953.)

c. Annual General Inspection of Kansas City Area Office.

Under the provisions of paragraph 3, Army Regulations 20-10, dated 4 June 1951, the annual general inspection of the Kansas City Area Office, AFSWP, for Fiscal Year 1953, was made by the Inspector General, AFSWP, during the period 29-30 June 1953. The Kansas City Area Office was, and had been since 21 April 1952, in charge of Colonel Gerald R. Tyler, CE, USA.

This was the second annual general inspection conducted of the Kansas City Area Office; the annual general inspection for Fiscal Year 1952 had been conducted during the period 21-25 April 1952, and all deficiencies noted during that inspection had been corrected.

The following principal points were brought out dur-

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ing the inspection for Fiscal Year 1953 (as noted in the reports of the Inspector General):

(1) Fiscal.

A review of the fiscal files showed that reports were submitted on time and were properly and neatly prepared. Allotment blotters were being maintained in accordance with regulations. A check-through of a representative allotment advice indicated that all regulations regarding fiscal procedures were being followed.

(2) Contracts Administration.

At the time of the inspection nine important contracts which concerned the Kansas City Area Office were in effect. Of the nine, two negotiated contracts with Reynolds Electric Company were hold-overs from the period before the current Area Engineer had taken charge. Contract No. DA-23-189-eng-3, dated 21 November 1950, had increased from an original cost of $92,207.63 through six modifications to the contract total of $6,360,476.81. It was believed that this contract could be terminated some time during the period between 1 October and 31 December 1953; and after reviewing all aspects of this contract it was decided that it would be in the best interest of the Government to terminate it then. Contract No. DA-23-189-eng-6, dated 25 September 1951, had increased from an original cost of $694,129.29 through four modifications to a total of $2,108,932.22. This contract, in general, covered the classified phase of work at Sites D, E, F, G, H, and I. Practically all the work under the contract had been completed at all the sites except Site Item. The materials for the classified phase at Site Item had been purchased and stored by the contractor under the terms

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of the contract. Since construction under the unclassified phase of the project had just recently been started at Site Item, there was little or no likelihood that this contract would be completed before November or December 1954. The conditions which existed when this contract was negotiated had changed to such an extent that a thorough review was required, to determine whether the contract should be continued in force until completion sometime late in calendar year 1954 or should be terminated at this time.

A review of other negotiated lump sum contracts indicated that all regulations pertaining to this type of contract were being complied with. Contracts of this type were undoubtedly saving the Government money on the classified phase of work. There had been no appreciable difficulty in securing qualified "Q"-cleared contractors to bid on contracts of this type. A typical example was Contract No. DA-23-189-eng-13, with Drury Electric Company, San Bernardino, California, in the amount of $87,827.00 for classified work at Manzano Base, Albuquerque, New Mexico. Security requirements regulating the awarding and the performance of the work under these contracts were being rigidly complied with. In addition to the construction contracts mentioned very little other purchasing and contracting action was being performed by the Kansas City Area Engineer. The only incidentals being purchased were some office supplies which could not be procured through General-Service-Administration supply contracts. When incidentals were purchased in the open market, all regulations pertaining thereto were being complied with.

(3) Security and Handling Classified Documents.

All communications classified SECRET and higher were handled through the Security Section in accordance with regulations. These regulations, properly enforced, adequately protected the interest of the Government. No loose handling of documents in the Area Engineer's office was noted by the Inspector General. Internal security for protection of the office during non-duty hours was provided by 24-hour guard duty, and this service and its cost were shared jointly by the Area Engineer's Office and the Architect-Engineer.

(4) Property Audits.

The industrial-audit responsibility for the accounts was under the jurisdiction of the Chicago Audit Agency. A target date of 15 September 1953 was set up as the completion date for all industrial accounts.

(5) Transportation.

Car storage and repairs for vehicles of the Kansas City Area Engineer were being procured under General-Service-Administration service contracts. The Area Engineer's Office was responsible for 21 vehicles on its property records. Seven of these vehicles were located in Kansas City. The other vehicles were assigned to agents located at each of the storage sites at which construction contracts were in force. While the need for the 21 vehicles was evident at the time of the inspection, it was believed that the requirements should be subjected to careful review, with the object of reducing the number of vehicles needed. A reduction to 15 within a reasonable period of time was regarded as a suitable goal. Proper records of all vehicle opera-

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tions were being maintained current. A copy of the Kansas City Area Engineer (KCAE) Operating Procedure - Motor Vehicles was available.

There was no apparent misuse of Government Transportation. It was pointed out, however, that in driving vehicles to and from their storage location some of the female employees were being conveyed in the vehicles. This concession had been granted by the Area Engineer in the absence of any acceptable public transportation available to these personnel at the hours of coming to and departing from their work. A thorough review of the practice was made by the Inspector General and it was his opinion that, under the circumstances, the intent of all regulations regarding the use of Government vehicles was being complied with in the best interests of the mission of the Kansas City Area Office.

(6) Conditions Noted in Connection with Special Subjects of the Department of the Army.

(a) Records Administration.

Sergeant C. E. Pate had been designated administrator by order of the Kansas City Area Office, and progress was being made. The cut-off date of 31 December 1950 had been established for records retirement. It was estimated that, because of classification procedures, it would be September 1954 before the records would be out of the office.

Sergeant Pate was on loan from Field Command to perform this work. He had taken aggressive action in getting the program started. While it was possible that this position could have been filled by a civilian, to make the change at this time would have

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delayed the program considerably. It was recommended that Sergeant Pate be kept in the position until such time as a suitable civilian could be obtained and trained to perform the duties.

(b) Supply Economy.

All personnel in the office were supply-economy conscious. The program was being given proper attention by everyone concerned.

(c) Cost-Consciousness Campaign.

The manner in which the cost-consciousness campaign was being handled by the Kansas City Area Engineer was worthy of note.

(d) Troop Information and Education Activities.

The requirements for troop information and education activities were not generally applicable in the Kansas City Area Office.

(7) Conclusions.

The AFSWP Inspector General reached the following conclusions: ~~that:~~

(a) The Kansas City Area Office was performing its primary function in an excellent manner.

(b) The office occupied at this time space in keeping with its needs.

(c) Practically all classified-phase construction was at this time being performed under negotiated lump sum contracts.

(d) Some female employees of the office were being conveyed in Government vehicles from a downtown central location to

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the Kansas City Area Enginner's office as a special procedure necessitated by lack of public transportation.

d. Routine Activities.

During the year 1953, the Inspector General, AFSWP, continued to supervise all investigative activities within AFSWP which affected the morale, discipline, economy and efficiency of the headquarters. These investigative activities were not scheduled but were conducted on a continuous basis, as required, throughout the year. Also, during 1953, numerous reports were processed by the Inspector General, involving a wide field of subjects, including allegations concerning unsatisfactory conditions, mal-administration, and official irregularities or misconduct on the part of military and civilian personnel of the AFSWP.

e. Personnel.

Colonel Donald E. Antes, CE, USA, continued to serve as Inspector General, AFSWP, throughout the year 1953. This service was an additional duty assignment; Colonel Antes's primary duty was his service as Chief of the Logistics Division. (See par. 3-2-4c.)

(Ref. 7/, "History, AFSWP Inspector General, 1953", transmitted to AFSWP Historian, by IG, AFSWP, 4 November 1954; and addendum thereto, transmitted 24 January 1955.)

[redacted]

3-3-14. AFSWP Participation in Presentation at SHAPE, CPX-4.

In November 1953, Brigadier General Harry McK. Roper, USA, Deputy Assistant Chief of Staff, G-3, wrote a memorandum to the Chief, AFSWP, asking for assistance in preparing a presentation for Supreme Headquarters Allied Powers Europe (SHAPE), Command Post Exercise (CPX) 4. General Roper had been nominated by the Joint Chiefs of Staff to give this presentation. Specifically, he requested that the AFSWP write a suitable presentation and coordinate it with the three services, and that Major A. L. Bethel, USA, Special Assistant to the Chief, AFSWP, be made available to assist him, as required, in the preparation and delivery of the presentation.

The presentation was divided into two parts - a lecture and a film. Using specific targets which related to other presentations at the CPX, the Weapons Effects Division prepared target analyses which described the expected damage from the employment of a 30 KT atomic weapon in several situations. These analyses were used by Major Bethel as a source of information for writing the text of the presentation and for designing, with the cooperation of the Document Reproduction and Distribution Branch, suitable lantern slide illustrations. The movie was prepared by selecting stock footage of weapons effects tests and aircraft, rocket, and missile delivery systems, and preparing a suitable narrative to describe the shots. The editorial work was done by the AFSWP Film Library Branch, and the final prints and sound track were made by the Naval Photographic Center.

A draft of the entire presentation was coordinated with

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the appropriate officers of the three services - Army G-3, Air Force Assistant for Atomic Energy (AFOAT), and Navy's OP 36 and OP 55 - and the comments of these agencies were taken into account in the preparation of the final text.

(Some of the activities described above extended into the year 1954 but in the interest of continuity the record of this entire matter is included here. The final text and the movie were referred by the AFSWP to the Executive Secretary of the Departments of State and Defense Military Information Control Committee, for security clearance on a classified basis to SHAPE. During the period 14 to 25 January 1954, the presentation was taken to SHAPE by Major Bethel and coordinated with the US element at SHAPE for their review and then with the CPX planning staff. The presentation of the lecture and the movie to the CPX audience was to be made by General Roper, with Major Bethel's assistance, between 26 and 30 April 1954.)

(Brig. General Roper was promoted to Maj. General on 7 May 1954.)

(Ref. 72 , Memo for Mr. Hadden, from Maj. A. L. Bethel, SWPSA, 28 Sept. 54, "AFSWP Participation in CPX-4".)

3-3-15. Lectures and Addresses by Chief, AFSWP.

During the year 1953, General Loper and General Luedecke delivered (or prepared for delivery by another) the addresses and lectures listed below. In each case the date and the name of the organization or group addressed are noted, and, in some cases, the classification and the subject or title of the address are given.

[redacted]

Date	Organization Addressed	Class.	Subj. or Title
By General Loper			
14 Jan 53	American Society of Photogrammetry	Unclass.	No Title
27 Jan 53	Army War College Forum (delivered for Gen. Loper by Brig. Gen. Harry McK. Roper, USA)	---	No Title
By General Luedecke:			
6 May 53	Armed Forces Staff College, Norfolk, Va.	TS	The Impact of Atomic Weapon Joint Operations
10 Sep 53	Army War College, Washington, D. C.	TS	(Mission of AFSWP)
18 Nov 53	The Air War College Maxwell AFB, Ala.	TS	Development and Status of the Atomic Energy Program

(Note: The principal sources of the material in paragraphs 3-3-2 and 3-3-3 above were: Memorandum for Historian, AFSWP, from Deputy Chief of Staff, Technical Services, 6 August 1953, "History of the Office of the Deputy Chief AFSWP (Navy) and Deputy Chief of Staff, Technical Services (Navy) for the Period 1 January 1953 through 30 June 1953", Ref. 73, and Memorandum for Historian, AFSWP, from Deputy Chief of Staff, Technical Services, 23 March 1954, "History of the Office of the Deputy Chief, AFSWP (Navy) and Deputy Chief of Staff, Technical Services (Navy), for the Period 1 July 1953 through 31 December 1953", Ref. 73. The principal sources of the material in other paragraphs of this section of the History have been referenced, usually, at the ends of the major paragraphs.)

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FIRST HISTORY OF AFSWP 1947 - 1954

VOLUME 6 - 1953, CHAPTER 3 - HEADQUARTERS

SECTION 4 OF 14 SECTIONS

THIS SECTION DECLASSIFIED BY DNA,
CHIEF, ISTS

DATE: 10/3/94

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HISTORY OF AFSWP

VOLUME VI - 1953

CHAPTER 3 - HEADQUARTERS

SECTION 4 - OFFICE OF THE ADJUTANT GENERAL

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VOLUME VI - CHAPTER 3

SECTION 4. OFFICE OF THE ADJUTANT GENERAL

3-4-1. General.

During the first half of the year 1953 there were no changes in the organization of the Office of the Adjutant General. (See Vol. V, Chapter 3, Section 4.) During the second half of the year, the general organization remained the same. Within the Mail and Records Branch, however, (see par. 3-4-4) there was established the Office of Secret Control.

3-4

A policy change by the Office of the Adjutant General, affecting the AFSWP headquarters as a whole, was the discontinuance of the use of Administrative Memoranda for publishing permanent instructions, and of Unnumbered Memoranda for temporary instructions. Effective 6 May 1953, AFSWP Directives were established as the media for dissemination of policies and instructions of a permanent nature. Each directive would be effective until rescinded or superseded, and would be identified by a subject code number and a title. Administrative Memoranda which would remain in effect were redesignated AFSWP Directives and were assigned appropriate code numbers. AFSWP Information Bulletins were established for the purpose of issuing information of a temporary nature, and would be numbered consecutively through each calendar year.

Directives, Bulletins, Circulars, and Memoranda published during the year 1953 totaled as follows:

	First Half Year	Second Half Year
AFSWP Directives	20	20
Information Bulletins	12	38
AFSWP Circulars	3	11
Administrative Memoranda	9	--
Unnumbered Memoranda	40	--

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3-4-2. Document Review Branch.

(See Vol. V, par. 3-4-2.)

During the first half of the year 1953, the control of all reproductions of Top Secret and Secret material in AFSWP Headquarters was assigned to the Document Review Branch. Such control included not only documents originated within the Headquarters, but those originated by other agencies. Assignment of control of reproduction of such material to one branch of the Office of the Adjutant General not only served to eliminate unnecessary reproduction, but afforded more accurate records of dissemination. In the case of a need or request for reproduction of a document which had been originated by another agency, the originator was asked for permission to reproduce the document. During the latter half of the year 1953, a total of 141 AFSWP documents was reproduced, while 175 documents originated by other agencies were reproduced.

In an effort to reduce the number of errors in the security classification of documents originated in the Armed Forces Special Weapons Project, the Document Review Branch was given the responsibility of reviewing all Top Secret and Secret documents, prior to their dispatch. The results proved the procedure to be warranted.

During the first two months of the year 1953, the Document Review Branch reviewed approximately 6,000 Top Secret files of the Manhattan Engineer District, and of Headquarters, AFSWP, for the years 1947-1948, for possible downgrading or destruction. This review was interrupted in order to assist the Top Secret Control Branch in its semiannual inventory. At the completion of the inventory, resumption of the review

was delayed pending the posting of the inventory and the adjustment of discrepancies.

Several changes in the classification system used by all Department of Defense agencies and by the Atomic Energy Commission were made by Executive Order 10501, dated 5 November 1953. This order was implemented by DOD Directive 5200.1, dated 19 November 1953. Changes effected in security classification were as follows:

a. Elimination of the term "security information".

b. Elimination of the Restricted classification category.

c. All material which was currently classified as Restricted Security Information, automatically became unclassified after 15 December 1953 unless positive action was taken to upgrade the material to Confidential.

d. Former definitions of "Top Secret", and "Secret", and "Confidential" were cancelled, and new definitions of those categories were substituted.

To implement Executive Order 10501 and DOD Directive 5200.1, Headquarters, AFSWP, issued AFSWP Circular No. 12, dated 25 November 1953. This circular listed those fields of interest which would be upgraded from Restricted, to Confidential, and reviewed for personnel of the Headquarters the basic provisions of Executive Order 10501. The Commanding General, Field Command, AFSWP, and the Kansas City Area Engineer were furnished copies of the circular, and were directed to take appropriate action.

A survey of the files of Headquarters, AFSWP, was conducted to determine the volume of Restricted material which would require review

for reclassification. As a result of this survey, the following courses of action were prescribed:

a. Material in those fields of interest which would require review for reclassification would be checked for withdrawal from Central Files.

b. The Technical Library would furnish the Document Review Branch with all bound documents in its possession classified as Restricted Security Information.

c. Each motion picture film classified as Restricted Security Information would be reviewed by a representative of the DRB as well as a representative from the Headquarters division having cognizance of the material presented in the film.

During the latter half of the year 1953 the Document Review Branch reviewed for correctness of classification all Top Secret and Secret correspondence originated in Headquarters, AFSWP. Top Secret correspondence reviewed totaled 385 documents; Secret correspondence totaled 3,628.

3-4-3. Top Secret Control Branch.

Work begun late in the year 1952 on the semiannual inventory of Top Secret documents (see Vol. V, par. 3-4-3) continued in the year 1953. Inventories were conducted, also, of AEC Top Secret documents, Cosmic documents, and Serial documents.

Receipt for classified Material, DD Form 646, was substituted for the AFSWP Form No. 1. The new form was much more complete than the AFSWP Form No. 1, and, since it was printed on a franked card, it would be much easier for the recipient of classified material to return to Headquarters, AFSWP

On 28 May 1953, monthly amendments to the AEC semiannual inventories were discontinued, and submission dates for the inventories were changed to 30 June and 31 December, as set forth in AR 380-5. On 25 May 1953, procedure was established whereby Headquarters, AFSWP, would in all cases operate as directed for an Army agency under 380-5, in the handling of Serial Documents. This action was coordinated with the Adjutant General of the Army, with the Air Adjutant General, and with the Registered Publications Section, CNO.

During the second half of the year 1953 there was conducted the first complete inventory of Top Secret material handled by Top Secret Control since the establishment of Headquarters, AFSWP. A second inventory of all Top Secret material was begun. All Top Secret records through 31 January 1950 were reviewed and were divided into two groups - those to be kept as permanent records and those to be destroyed.

In the course of the year 1953, the following amounts of current Top Secret Material were processed:

	First Half Year	Second Half Year
Incoming	773	934
Outgoing	367	385
Interoffice	66	63

3-4-4. Mail and Records Branch.

During the first half of the year 1953, the responsibility for the preparation of envelopes for all outgoing material was assumed by the Mail and Records Branch. This centralization of the procedure not only relieved the several Headquarters divisions of some administrative and clerical burdens, but also reduced the chances of classified

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material being dispatched without proper receipts and double envelopes.

Effective 1 January 1953, the responsibility for the destruction of non-record material became that of the Mail and Records Branch. The Records Administrator was appointed Destruction Officer. During the first six months of the year 17,846 classified documents were destroyed. During the second six months, 52,485 such documents were destroyed, making a total of 70,331 classified documents destroyed during the year 1953.

Early in the year arrangements were made with the Adjutant General, Department of the Army, whereby Headquarters, AFSWP, would retire non-current records to the Departmental Records Branch, AGO, Alexandria, Virginia, while the records of subordinate units of the AFSWP would be retired to the Kansas City Records Center, Kansas City, Missouri. Further arrangements were made with the Office of the Chief of Staff, Department of the Army, whereby certain early records of the Manhattan District would be transferred to his control from that of the AFSWP.

Cryptographic operations were transferred, early in the year 1953, from the Mail and Records Branch, AG, to the Operations and Training Division.

During the second half of the year 1953, the AFSWP decimal file system was reviewed for revision. Proposals and suggestions from Chief Clerks of the several Divisions were incorporated in the revised edition of the AFSWP Decimal File Booklet, to be published in January 1954.

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As a result of Department of the Army SR 380-5-1, dated 1 July 1953, which required more positive control of important security information, there was established in the Mail and Records Branch a Secret Control Office. Effective 17 August 1953, the duties of this Office were to receive, process, and dispatch all Secret documents. The Secret Control Officer was charged with the responsibility of maintaining a standard system for handling Secret documents within his jurisdiction. Each such document was covered by a continuous receipt system within Headquarters, AFSWP. All Secret material dated in the year 1953 was withdrawn from Central Files and transferred to the Secret Control Office.

During the first month of its operation, many complaints were received by the Secret Control Office about the new method of handling Secret Material. In general, the objections concerned the continuous receipt requirement and the requirement for preparing a new Routing and Control Sheet when answering correspondence. It was charged that Top Secret material could be handled with less difficulty. After surveys of the systems of handling Secret material in the departments of the Army, Navy, and Air Force, the above complaints were answered as follows:

a. It was explained that the continuous receipt system was required throughout the Department of Defense for positive control of Secret material, and could not be eliminated.

b. Offices were notified that new Routing and Control Sheets need not be prepared, provided all Secret material was accounted for at all times.

[redacted]

c. It was stated that procedures for handling Top Secret Material did not provide as positive a control as those prescribed for handling Secret material, and that changes were being made to correct deficiencies in the former.

During the first six months of the year 1953, the Branch processed 28,750 pieces of incoming and outgoing mail. During the second six months period, 28,189 pieces were processed, as shown in the following table:

	Incoming	Outgoing	Total
Secret	3,171	3,628	6,799
Confidential, Restricted, Unclassified	11,256	10,134	21,390
	14,427	13,762	28,189

The total of 56,939 pieces of official mail received and dispatched during the year represented an increase of 7,034 pieces over the 1952 total. (See Vol. V, par. 3-4-4.)

3-4-5. Administrative Branch.

The Administrative Branch of the Office of the Adjutant General continued to be responsible for the issuance of travel orders, issuance of requests for transportation tickets, procurement of transportation and hotel reservations, and the preparation of Per Diem Vouchers for each traveler. The Branch also continued to maintain duty rosters for the Executive Duty Officer, Non-commissioned Duty, Courier Duty, Saturday Duty, and Daily Safe-Check Duty. (See Vol. V, par. 3-4-5.)

During the year 1953 the typing of all AFSWP Directives, Information Bulletins, and Circulars was handled by the Administrative Branch.

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Orders issued during the year 1953 included 27 General Orders, 149 Special Orders, 491 Military Travel Orders, and 105 Civilian Travel Orders.

3-4-6. Property and Supply Branch.

During the year 1953, the Property and Supply Branch submitted to Defense Supply Service 301 requisitions for supplies. The sum of $23,029.22 was obligated for equipment and supplies.

On 1 April 1953 an audit of AFSWP supply records was conducted by the Army Audit Agency. No discrepancies nor errors were found.

3-4-7. Key Personnel.

First Lieutenant Irene Ertell, USA, was transferred to Ft. Benning, Georgia, in November 1953. In the same month MSGT James Steinmetz, USA, was honorably discharged from the Service.

As of 31 December 1953, the general organization of the Office of the Adjutant General, with incumbent key personnel, was as follows:

Adjutant General
Lt. Colonel Henry H. Rankin, USA

Assistant Adjutant General
Captain Chancy Chapman, USA
CWO R. E. O'Neill, USAF

Document Review Branch
Capt. L. D. Culberson, USAF
Mr. J. C. Sabin

Top Secret Control Branch
Mrs. Madeline Dawson

[redacted]

[redacted]

[redacted]

Mail and Records Branch
1st Lt. V. E. Matthews, USA

Administrative Branch
Mrs. Mary Leake

Property and Supply Branch
Mr. J. C. Setzer

Chief Clerk
MSGT J. L. Mims, USA

3-4-8. Functions.

As of the end of the year 1953, the official definitions of the assigned functions of the Adjutant General, Headquarters, AFSWP, and the various branches of his office were as follows (published in the booklet "Organization & Functions, Headquarters, Armed Forces Special Weapons Project", dated January 1954):

a. Adjutant General.

"1. Reports to and advises the Chief of Staff, AFSWP, on administrative functions.

"2. Executes and coordinates administrative functions necessary for the issuance of orders and policies enunciated by the Chief, AFSWP.

"3. Reviews all outgoing correspondence to insure compliance with existing regulations and established AFSWP administrative and policy procedure.

"4. Authenticates all headquarters official correspondence, messages, directives, etc., prior to dispatch, except those reserved for the signature of the Chief, AFSWP, his deputies or the Chief of Staff.

"5. Supervises the administrative procedure within the headquarters and supervises the activities of the various branches under the Adjutant General."

Except for the insertion of item No. 1, these definitions were the same as those previously published, in the booklet dated August

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1952.

b. Mail and Records Branch.

"1. Receives, processes, routes and maintains a suspense system on all incoming communications except Top Secret.

"2. Maintains a Secret Control Office for the receipt, custody, accounting for, and distribution of Secret material within the headquarters, and for the transmission thereof outside the headquarters.

"3. Processes and dispatches all outgoing communications except Top Secret, retaining record copies and reading file copies.

"4. Serves as office of record for Headquarters AFSWP documents and controls all completed files except Top Secret and registered documents.

"5. Operates Records Administration Program for Headquarters, AFSWP.

"6. Provides mail and messenger service within the headquarters.

"7. Operates mimeograph and ditto machines for the headquarters and distributes reproduced publications."

Item No. 1 above was a combination of items Nos. 3 and 5 of the 1952 definitions. Items Nos. 2 and 7 above were entirely new. Item No. 3 above was the same as the old item No. 4, except for a minor change in wording. Item No. 4 above was the same as former item No. 1, except for the omission of the phase "classified or otherwise", following the word "files", and except for the substitution of the word "registered" for "serial". Item No. 5 above was the same as former item No. 2. Item No. 6 above was in effect the same as a part of former item No. 6, the phase "operates TWX and teletype facilities for the headquarters" having been omitted.

c. Top Secret Control Branch.

"1. Administers office of records and maintains accurate

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accountability for Top Secret and registered documents.

"2. Receives, processes and routes incoming Top Secret and registered documents.

"3. Records and dispatches outgoing Top Secret and registered documents.

"4. Maintains register of headquarters personnel authorized to have knowledge of Top Secret matters.

"5. Serves as office of record of all JCS papers."

These definitions were the same as those of August 1952, except for the substitution of the word "registered" for "serial" throughout.

d. Document Review Branch.

"1. Responsible for review and reclassification of the AFSWP documents prior to retirement to records depository.

"2. Reviews outgoing AFSWP documents to insure that they bear proper security classification in accordance with existing security policies.

"3. Responsible for controlling reproduction of all documents originating within AFSWP command and securing authority to reproduce others."

Item No. 1 above was similar to item No. 1 of the definitions for the former Security Classification Review Branch, of August 1952, with the omission of responsibility for "destruction" of documents. Item No. 2 above was similar in intent to former item No. 4. Item No. 3 above was entirely new.

e. Property and Supply Branch.

"1. Processes all requisitions for office supplies, publications, property and printing and binding.

"2. Processes request (s) for changes in telephone service and equipment.

"3. Maintains stock record cards of all headquarters

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property."

The above definitions were the same as those of August 1952, unchanged.

f. Administrative Branch.

"1. Processes travel requests. Obtains transportation and hotel reservations. Prepares per diem vouchers.

"2. Publishes all Special, General and Travel Orders. Maintains records of changes and publishes telephone directory.

"3. Supervises use of offical headquarters vehicles and assigns parking space for privately owned vehicles.

"4. Maintains the headquarters duty rosters."

The above definitions were the same as those of August 1952, unchanged.

(Note: The principal sources of the material in this section of the History were memoranda prepared by the Office of the Adjutant General, AFSWP: "History of the Office of the Adjutant General, 1 January 1953 to 30 June 1953", received by Historian, 4 August 1953; and "History of the Office of the Adjutant General, 1 July 1953 to 31 December 1953", with memo of transmittal to Historian, 28 January 1954.)

(Ref. 74.)

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FIRST HISTORY OF AFSWP 1947 - 1954

VOLUME 6 - 1953, CHAPTER 3 - HEADQUARTERS

SECTION 5 OF 14 SECTIONS

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HISTORY OF AFSWP

VOLUME VI - 1953

CHAPTER 3 - HEADQUARTERS

SECTION 5 - PLANS DIVISION

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CHAPTER 3 - HEADQUARTERS

SECTION 5 - PLANS DIVISION

(Ref. 73, TS Control SWP 53-1292 (File-314.7); and
Ref. 73 , TS Control, SWP 54-402 & File)

3-5-1. General.

The Plans and Requirements Division had come into being, originally, with the reorganization of Headquarters, AFSWP, of 28 November 1951, as the successor to the Special Projects Division.

3-1

At the beginning of the year 1953, the Plans and Requirements Division was responsible for certain day to day mechanics and problems of logistic support. On 8 April 1953, the Chief of the Division proposed that the logistics requirements functions be transferred to the Logistics Division, thus to permit the Logistics Division to carry out the complete logistic cycle, from requirements to distribution. It was proposed at the same time that the name of the division be changed from Plans and Requirements Division to Plans Division.

The Chief of AFSWP had approved the establishment of the Special Weapons Materiel Control Office (SWMCO) at Field Command. This organization was charged with receiving, consolidating, procuring, and distributing Special Weapons Equipment Requirements of the services and of the AFSWP. The Special Weapons Materiel Control Office was to receive its guidance and staff supervision through logistics channels, and because it was incongruous to split this guidance at Headquarters, AFSWP, the reorganization proposed by the Chief of the Plans and Requirements Division contemplated shifting the Special Weapons Equipment Requirements from his division to the Logistics Division.

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The two officer spaces authorized for the Equipment.Requirements Branch of the division were, under the proposed reorganization, to be split between the Plans Division and the Logistics Division, with the Plans Division retaining the weapons programs functions and the Logistics Division absorbing the "nuts and bolts" requirements. (Ref. 76 , Memo on Change in Functions, from Plans and Requirements Division to Chief of Staff, 8 April 1953.)

Approval of the reorganization plan was secured on 10 April 1953, and it was implemented by General Order No. 8, Headquarters, AFSWP, dated 20 April 1953 (Ref. 77 ; also, see par. 3-1-3a). The Division, under its new name, Plans Division, therefore dated from 20 April 1953. The Logistics Division actually assumed the responsibilities outlined in General Order No. 8 on 17 June 1953.

The changes in organization of the Plans Division were reflected in the next edition of the organization chart of Headquarters, AFSWP, dated 1 July 1953, and in the next edition of the booklet, "Organization and Functions . . .", dated January 1954 (see par. 3-1-3a). The division continued to have three branches, but their names were changed to: "Manpower and Organization Branch"; "Special Studies Branch"; and "Weapons Programs Branch".

The functions of the chief, the executive, and the three branches were defined in the booklet of January 1954 as follows:

a. Chief, Plans Division.

"1. Reports to and advises the Deputy Chief of Staff, Operations, on matters concerning the plans activities of the AFSWP.

[redacted]

"2. Directs, supervises and coordinates the activities of the division.

"3. Assigns necessary tasks to the branches of the division and initiates such studies as required to fulfill the mission of the division.

"4. Directs special studies on matters beyond the scope of normal activities of any AFSWP staff division as required by the Chief of Staff."

These definitions were the same as those previously published, for the Chief of the Plans and Requirements Division (in August 1952), except: in item No. 1, the opening words "Reports to and" were inserted, and the words "the plans and requirements activities" were changed to "the plans activities"; and in item No. 4, one unimportant word ("such", following "Directs") was omitted.

b. Executive.

"Assists the Chief, Plans Division, in the performance of duties and acts for him in his absence."

This definition remained unchanged.

c. Manpower and Organization Branch.

"1. Prescribes manpower utilization and organization policies of AFSWP.

"2. Maintains a manpower and organization analysis program, including work measurement and simplification, methods improvement, and related programs.

"3. Evaluates and appraises manpower requirements of all AFSWP organizations. Coordinates with other staff divisions of Hq, AFSWP, for review and evaluation. Submits requirements to Services.

"4. Programs the long range manpower requirements of AFSWP.

"5. Reviews and coordinates staff action relative to the organization and manpower utilization of new assembly type units for the Services."

[redacted]

Except for some minor changes in the wording of item No. 2, these definitions were the same as those written for the functions of the "Manpower Branch", effective 1 September 1952, as quoted in Volume V of this History (see Vol. V, par. 3-5-1).

d. Special Studies Branch.

"1. Makes recommendations for, and, upon approval, prepares plans related to the long range objectives of AFSWP.

"2. Prepares special studies affecting two or more AFSWP divisions.

"3. Coordinates the planning of the necessary resources required to meet the needs of approved programs.

"4. Analyzes broad directives of higher headquarters to determine the impact upon AFSWP."

Of these definitions, items Nos. 2 and 4 were new; item No. 1 was closely similar to former item No. 2, and item No. 3 was exactly the same as former item No. 3 of the definitions of the functions of the "Plans Branch", effective 1 September 1952 (see Vol. V, par. 3-5-1).

e. Weapons Programs Branch.

"1. Prepares and monitors weapons programs which outline Service-AFSWP plans for achieving organizational capabilities with specific weapons.

"2. Insures the compatibility of AFSWP planning for the operational readiness of new storage facilities.

"3. Takes necessary staff action for the publication of the Advanced Planning Document.

"4. Monitors the preparation of Special Weapons Equipment Lists, Tables of Allowances, and AFSWP equipment allowances reflected in the Equipment Requirements Program."

These were new definitions, suggestive in part, however, of the definitions of the functions of the former "Weapons Equipment Branch".

The activities in which the Plans Division (and its predecessor, the Plans and Requirements Division) took part, during the year

1953, will be described hereinafter, under appropriate headings. The division will, in general, be referred to as the Plans Division, regardless of whether the reference involves the period before or the period after the name of the division was changed.

3-5-2. Custody of Atomic Weapons.

Following discussions with the Secretary of State and the Chairman of the Atomic Energy Commission, on 12 January 1953, the Secretary of Defense concluded that it would be inadvisable to request the Special Committee of the National Security Council to recommend to the President that he issue an Executive Order which would accomplish, among other things, the transfer of custody of atomic weapons. This transfer of custody had been described as follows:

> "The transfer of the existing stockpile of atomic weapons including nuclear components, and of such atomic weapons as may be produced in the future, from the custody of the Atomic Energy Commission to the custody of the Department of Defense; accountability for all weapons so transferred to be vested in the Secretary of Defense."

The conclusion of the Secretary of Defense was based upon the domestic and international implications, in the fields of politics and public relations, of a major change at that time in the policy relating to the custody of atomic weapons. It was indicated, however, that, if the Joint Chiefs of Staff should so recommend, a modified request would be supported: for military custody of some atomic weapons in the Zone of Interior storage sites, together with a provision for transfer of the custody of the entire stockpile of atomic weapons at such time as the President might direct full mobilization of the nation's resources or on the outbreak of full-scale hostilities.

[redacted]

On 27 January 1953, General Luedecke, in compliance with an oral request of the Chairman of the Joint Chiefs of Staff, prepared and forwarded to the Secretary, JCS, a draft of a memorandum to the Secretary of Defense, for use in the event the Joint Chiefs of Staff decided to recommend the adoption, as an interim measure, of the concept of partial custody by the Department of Defense. It was pointed out in this memorandum (Ref. 78 , JCS 1848/21, 2 February 1953) that:

a. The incoming administration should have full opportunity to review all elements of the custody problem before being called upon for a decision.

b. There was no public relations problem or international political problem involved in partial custody; and it was practicable and agreeable to request the incoming administration to approve the transfer of a specific, but limited, number of atomic weapons to military custody at an early date.

c. Custody of some atomic weapons in the United States would reduce the hazard of security leaks when peace-time deployments were made overseas, and, with the following conditions or stipulations, would reduce the hazards of interrupted communications and misinterpreted directives at the outbreak of hostilities:

(1) The number of atomic weapons in military custody should be adequate to meet deployment and delivery requirements for initial strike operations of all strategic and tactical forces.

(2) The numbers and types of weapons in military custody, and their location, should be dictated by current operational plans

[redacted]

of the striking forces, pursuant to the existing war plans, and, therefore, subject to change as initial strike capability increased.

(3) The weapons in military custody should be of the most advanced types in stockpile at all times, and subject, therefore, to highest priority in stockpile maintenance, modification, modernization, and replacement scheduling.

d. For the above conditions to be met, weapons in military custody had to be located at all existing storage sites and at all new storage sites as they became operational.

It was concluded in this memorandum that, although partial custody was not considered a satisfactory long-range solution, it would constitute a move in the direction of improved security, operational flexibility, and military readiness. Duplication of functions and division of responsibility, inherent in a divided stockpile, would still exist, however, and operational costs would increase rather than decrease.

On 10 February 1953, the Joint Chiefs of Staff, in considering the problem of partial custody, requested General Luedecke's comments as to objections to this concept. The following comments, in essence, were presented to the Joint Chiefs of Staff, orally, by General Luedecke:

a. Partial custody, in terms of the current stockpile, did not satisfy the military requirements for readiness and flexibility.

b. Partial custody did not satisfy military requirements for security of deployment or preparatory measures in event of emergency, because of the necessity for duplicate status records.

c. A stockpile division by type and number would be constantly fluctuating.

d. A division by geographical distribution in the United States was not practicable.

e. The inefficiencies in the operation of facilities under divided responsibility could further jeopardize the military position relative to custody.

f. Operation under divided custody would require more military personnel and would be more expensive.

g. Priority of stockpile maintenance, modification, and modernization would require negotiation in each case.

h. The misconception had been established that the number of weapons in military custody was the military requirement, and that those in the custody of the Atomic Energy Commission constituted the war reserve.

i. The already difficult problem of working with contractors of the Atomic Energy Commission would be further aggravated. A harmonious effect in this area was essential to the achievement of an acceptable degree of readiness.

On 21 February and 24 February 1953, Mr. LeBaron discussed with General Luedecke the substance of the proceedings of the Special Committee of the National Security Council, on 20 February 1953, with reference to the problem of custody of atomic weapons. In the course of consideration of the items concerning atomic energy on the agenda of the Special Committee, the Secretary of State had explained some of his feelings regarding the relationship of atomic weapons to the national policy and to the Department of Defense. It was a view of the Secretary

of State that atomic weapons constituted the backbone of the nation's military and diplomatic strength and that they formed the basic element of the nation's military plans and capabilities. The Secretary of State felt that atomic weapons were, and should be recognized as, an integral part of the military weapons system in the same manner as other weapons or military equipment.

The Secretary of State considered specifically: that custody of all atomic weapons should be transferred to the Department of Defense, and these weapons should be a part of the Department's arsenal in the same sense as any other military weapon; and that the Department of Defense should be responsible for its own non-nuclear hardware. Mr. LeBaron considered that this provision would include responsibility for research, development, procurement, production, and storage of all non-nuclear components of atomic weapons.

In response to the remarks of the Secretary of State, Mr. Roger M. Kyes, Deputy Secretary of Defense, had expressed general agreement, but indicated that he desired to examine the problem more fully, particularly as to the achievement of these objectives.

On 24 February 1953, at the request of Rear Admiral William G. Lalor, USN, Secretary of the Joint Chiefs of Staff, General Luedecke briefed the Joint Chiefs of Staff on the position of the Secretary of State and the Deputy Secretary of Defense, as described above. General Luedecke informed the Joint Chiefs that at the direction of Major General J. S. Bradley, the Rainbow Team of the Joint Strategic Plans Group was preparing a paper on the custody aspects of the problem for further

consideration of the Joint Chiefs of Staff. At the time of this briefing, no consideration was given by the Joint Chiefs of Staff to the question of the desirability of a mechanism of examination of the responsibility for non-nuclear hardware.

On 5 March 1953, the Joint Strategic Plans Committee submitted a report (JCS 1848/23, Ref. 79) to the Joint Chiefs of Staff, presenting comments and recommendations on the future exercise of custody of atomic weapons. This report was based upon a staff study prepared by the AFSWP and furnished to the Joint Strategic Plans Committee informally. It was for the purpose of recommending to the new Secretary of Defense that he reconsider, and take action to achieve, the objective of custody by the Department of Defense of the entire stockpile of atomic weapons. The report contained a draft of a memorandum for the Secretary of Defense from the Joint Chiefs of Staff, inclosing a draft of:

a. Objectives of a Presidential Executive Order transferring custody of atomic weapons from the Atomic Energy Commission to the Department of Defense.

b. Objectives of an AEC-DOD Agreement on transfer of custody.

c. A memorandum to the Chief, AFSWP, from the Secretary of Defense, outlining the responsibilities of the former upon assumption of custody by the Department of Defense.

The draft of the memorandum to the Secretary of Defense enumerated the undesirable features of the current system of custody and those that would be created by a system of partial custody. It stated that no plan, short of Department of Defense custody of the stockpile of

all atomic weapons, would permit:

(1) Elimination of the problems of dual management.

(2) Elimination of the risk of delay in the release and transfer of atomic weapons to the Department of Defense in the event of outbreak of hostilities.

(3) Security of counter-offensive preparations.

(4) Through a centralized system of inspection, reporting, and accounting, complete and accurate knowledge by the Department of Defense at all times of the status and location of all atomic weapons and components.

(5) A satisfactory solution to the custody problem which would allow the Department of Defense to plan, organize, train, and budget for the use of atomic weapons intelligently and progressively.

The draft of the memorandum to the Secretary of Defense, and its inclosed draft of the memorandum for the Chief, AFSWP, intended that the AFSWP would be the agency of the Department of Defense charged with the responsibility for centralized control and accountability for the stockpile of atomic weapons. This responsibility, exercised by the Chief, AFSWP, reporting directly to the Secretary of Defense, would include: advising the Secretary of Defense as to the technical and operational status of the stockpile of atomic weapons and recommending action to correct any deficiency or any condition limiting employment of the weapons; maintaining a centralized system of reporting and accounting, so that the current status and location of atomic weapons and

components in the custody of the Department of Defense would be known at all times by the Chief, AFSWP; arranging for the distribution of atomic weapons to the various sites, including both nuclear and non-nuclear components, by number and type.

On 11 March 1953, the memoranda described above (JCS 1848/23) were forwarded to the Secretary of Defense, for discussion at a subsequent meeting of the National Security Council.

On 15 April 1953, General Luedecke attended a meeting with the Special Committee of the National Security Council, at which there were also present:

Mr. Roger M. Kyes, Deputy Secretary of Defense

(General) Walter Bedell Smith, Under Secretary of State, representing the Secretary of State

Mr. Gordon Dean, Chairman of the Atomic Energy Commission, and Commissioners Thomas E. Murray and Eugene M. Zuckert

General Hoyt S. Vandenburg, USAF, representing the Joint Chiefs of Staff

Mr. Lewis L. Strauss, Special Adviser to the President

Mr. Robert Cutler, Special Assistant to the President

Mr. R. Gordon Arneson, Special Assistant to the Secretary of State

Mr. S. Everett Gleason, Deputy Executive Secretary, National Security Council (for Mr. James S. Lay, Jr., Executive Secretary)

The result of this meeting was that the National Security Council decided not to recommend to the President, at that time, that he direct the transfer of custody to the Department of Defense, and that the President be given a chance to reaffirm the provisions of the "Agreed Concepts Regarding Atomic Weapons". It was also concluded that the transfer

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of custody would be subject to further reconsideration as to timing and tactics of implementation. Mr. Dean stated that nothing was wrong with the current system of custody and that the Atomic Energy Commission, responsible for flexibility and readiness, was capable of transferring weapons to the Department of Defense within the time requirement. Following this meeting, General Vandenberg requested General Luedecke to have specific data collected, documented where possible, showing why custody by the Atomic Energy Commission was not acceptable to the Department of Defense.

On 17 April 1953, General Luedecke, assisted by Major Niel M. Wreidt, USA, of the Military Liaison Committee, briefed Mr. Lewis L. Strauss, Special Assistant to the President, on the operation and maintenance of the stockpile of atomic weapons. Also present at this briefing were: General Loper; Mr. McKenzie (assistant to Mr. Strauss); and Colonel Theron Coulter, USAF, (Deputy C/S, Operations); Lt. Colonel W. S. Matthews, USAF (of the Inspection, Storage and Surveillance Branch of the Operations and Training Division); and Lt. Colonel W. A. Stevens, USA, (Chief of the Plans Division). In his introduction, General Luedecke pointed out that the briefing was not an attempt to indict the Atomic Energy Commission but rather to show how confusion and duplication of effort were inherent in the current system of custody.

On 28 April 1953, a working group, consisting of Lt. Colonel Stevens, Lt. Colonel Matthews and Major Wreidt, submitted to General Luedecke a draft of a staff study containing the data requested by General Vandenburg on 15 April 1953. This study was based on information collected

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in Headquarters, AFSWP, together with data obtaining by the working group during a visit to Field Command, for this purpose, during the week of 20 April. The conclusions of the study were as follows:

a. That as long as the Atomic Energy Commission had custody of the stockpile of atomic weapons, it would be necessary for the Department of Defense to negotiate numerous formal and informal agreements, both written and oral, in order to establish divisions of responsibilities for specific functions and tasks involved in operating and maintaining the stockpile.

b. That although the Department of Defense had, so far, been able to accomplish, after negotiation and agreement with the Atomic Energy Commission, the necessary tasks involved in operating and maintaining the stockpile, the Department was in an untenable position, resulting, primarily, from:

(1) The possibility that, under the current system of custody of weapons by the Atomic Energy Commission and operation of the storage sites by the Department of Defense, even those DOD responsibilities agreed to by the AEC could be circumvented by the insistence of the AEC on exercising certain concurrent rights.

(2) The lack of positive control over the custodial organization and personnel which was required to ensure that military operations would not be jeopardized at a critical time.

(3) The unknown, or doubtful, operational status of the atomic weapons in the AEC War Reserve stockpile, largely due to the fact that the Department of Defense was not permitted to establish or

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control the criteria for inspectors designated to ascertain the condition of atomic weapons for operational use.

(4) The fact that, under the current system of custody, an unacceptable number of AEC personnel and AEC contractor personnel, with no legitimate need to know, had had and would probably continue to have access to detailed information concerning the quantities, types and locations of atomic weapons which had been or would be operationally deployed in accordance with military war plans.

c. The fact that transfer of the custody of the complete stockpile of atomic weapons and weapons components to the Department of Defense was necessary to ensure the military readiness and operational flexibility required by the armed forces to conduct atomic warfare.

At the time that this staff study was completed, it appeared that transfer of custody to the Department of Defense was imminent, and General Luedecke decided to defer submission of the study on this particular aspect.

On 19 May 1953, the Plans Division, assisted by Lt. Colonel Matthews, of the Operations and Training Division, prepared drafts of memoranda, directives, and agreements to be used in the event the President directed the transfer of custody to the Department of Defense (Ref. 80, TS SWP 53-820). This preparatory material consisted of:

(1) A memorandum for the Chief, AFSWP, from the Secretory of Defense, outlining the responsibilities of the Chief, AFSWP, as a representative of the Secretary of Defense.

(2) A memorandum for the Chairman, Joint Chiefs of Staff, from the Secretary of Defense, outlining the responsibilities

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of the services.

(3) A memorandum for the Chief, AFSWP, from the Service Chiefs, outlining the responsibilities of the services which would be exercised by the AFSWP.

(4) A revised AEC-DOD agreement to effect necessary changes in stockpile operations.

(5) A TWX message to Field Command, alerting Field Command to its additional responsibilities.

(6) Letters to the services from Headquarters, AFSWP, requesting additional personnel allocations.

On 26 May 1953, Lt. Colonel Stevens was on temporary duty at Field Command, for the purpose of coordinating the drafts described above and reviewing the preparation of similar data to be issued by Field Command upon transfer of custody. Field Command transmitted to Headquarters, AFSWP, on 24 June 1953, a set of draft data which would be used at that level to implement the transfer of custody.

General Luedecke informed Lt. Colonel Stevens, on 29 June 1953, of the probability that approximately 95% of the weapons in stockpile would be transferred to the Department of Defense. This transfer could be accomplished without any public announcement of the Presidential decision and would satisfy the current objections to the transfer of the entire stockpile of atomic weapons; among the objections were the public reaction and the international political implications.

In anticipation of the additional responsibilities, in connection with the custody of atomic weapons, which were to be given

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to the AFSWP, letters were sent, on 3 July 1953, to the three services, requesting additional manpower to discharge these responsibilities. The Chief of AFSWP delivered these letters personally and explained the nature of the custody requirements. The additional manpower requirements were as follows:

Officers

Service	Total	Maj./LCDR	Capt./LTSG	Lts./JG&EN	WO
Army	10		7	2	1
Navy	9	1	7		1
Air Force	15	1	3	9	2
	34	2	17	11	4

Enlisted

Service	Total	E-7	E-6	E-5	E-4	E-3	E-2
Army	22	2	2	4	14		
Navy	21			4	9	8	
Air Force	43			9	16	14	4
	86	2	2	17	39	22	4

Aggregate

Army	32
Navy	30
Air Force	58
	120

(Ref. 8/, Letter, SWPPR 320.4, 3 July 53 subject "Manpower Requirement", AC/S, G-1; CNO (ATTN: OP-36); and AFOMO.)

Subsequent developments indicated, on 4 September 1953, that ~~that~~ the effective date when these personnel spaces would be required could no longer be predicted, and the personnel spaces which had been authorized were returned to the respective services. (Ref. 8/, Letters SWPPR 320.4, 4 September 53, subject "Manpower Requirements", to three services.)

On 16 October 1953, Mr. Roger M. Kyes, Deputy Secretary of Defense, signed a memorandum addressed to the Secretaries of the

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three services, to the Chairman Joint Chiefs of Staff, and to the Chief of AFSWP, on the subject, "Custody of Atomic Weapons". Because this memorandum extended the mission of the AFSWP and was, in effect, an important extension of the charter of the AFSWP, it was quoted in full in Chapter 2 ("Status of the Mission, Responsibilities and Policies of AFSWP") of this volume of this History (see par. 2-2a (3)).

In Chapter 2, also, the letter from the Secretary of the Navy to the Chief of Naval Operations, dated 13 November 1953, was described. In this letter, the Secretary designated the Chief of Naval Operations as the Secretary's agent in carrying out the provisions of the memorandum of 16 October 1953; this letter also stated that it was desired that the Chief of Naval Operations discharge the residual custodial responsibilities for zone of interior and overseas operational storage sites under Naval operation. (It was also stated in Chapter 2, parenthetically - encroaching upon the period to be covered by the next volume of this History - that analogous letters were written, (1) by the Secretary of the Air Force to the Chief of Staff, USAF, dated 14 January 1954, and (2) by the Secretary of the Army to the Chief of Staff, USA, dated 24 March 1954. Although the Army letter was not to be written until nearly three months after the end of the year 1953, the subject had been discussed, in December 1953, with a representative of the Chief of Staff, USA, who indicated that the Secretary of the Army would take action parallel to that of the two other Secretaries.)

3-5-3. Organization and Functions of Headquarters, AFSWP.

On about 1 March 1953, the Chief of Staff, AFSWP,

requested the Plans Division to prepare a study of the organization and functions of Headquarters, AFSWP, with a view to determining what revisions might be desirable. As a result of this study, several recommendations were made, as follows:

a. To transfer one officer space for the Plans Division to the Logistics Division, and to transfer the functions of the Requirements Branch of the Plans Division to the Logistics Division. This recommendation was approved 20 April 1953. (See par. 3-1-3a; also, par. 3-5-1.)

b. To discontinue the Weapons Defense Division; to transfer the training functions and their personnel to the Operations and Training Division, and to transfer the defense functions and their personnel to the Weapons Effects Division. This recommendation was approved 1 April 1953. (See par. 3-1-3a; also, par. 3-5-1.)

c. To transfer the Technical Library Branch of the Weapons Effects Division to the Adjutant General; to transfer the Classification, Special Problems and Public information Branch of the Security Division to the Adjutant General; and to transfer the Illustrating Branch of the Weapons Test Division to the Adjutant General. This recommendation was disapproved.

Several other plans were developed but not submitted because of other work of higher priority and a general satification with the existing organizational structure. On 1 July 1953, a new organizational chart was published reflecting the changes since the issuance of the chart dated 5 January 1953.

3-5-4. Directive Books.

Letters were forwarded to the services and to Field Com-

mand inclosing documents to be filed in the AFSWP Policy-Directive Book, on 16 April, 5 May, and 22 June 1953. The letter of 22 June also contained a request that certain documents, no longer current, be deleted from the book. The Plans Division continued to monitor this book.

3-5-5. Joint Projects Program (Army).

The Joint Projects Program for Fiscal Year 1955, which was submitted by the Plans and Requirements Division to the Department of the Army early in January 1953, was described in the preceding volume of this History. (See Vol. V, par. 3-5-7.) The Division was involved in no further activity in connection with these programs during the year 1953, but it was anticipated at the end of the year that the subject would be active again during the next half-year.

3-5-6. System of Program Management.

At the end of the year 1952, the project of developing a system of program management was described as remaining "under study, but with low priority" (see Vol. V, par. 3-5-12). Early in 1953 this project was discontinued, because it was felt that "the end did not justify the means".

3-5-7. Advanced Planning Document (APD).

On 14 April 1953, a letter was sent to each of the three services requesting a revaluation of their requirements for copies of the Advanced Planning Document and for copies of a new document, formerly Section III of the APD, entitled "Weapons Development Report" (WDPR). This revaluation was requested because of a general feeling of concern over security implications. The replies from the services

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indicated the following requirements for copies:

	APD	WDPR
Army	13	13
Navy	25	25
Air Force	29	13

Distribution of the APD and the WDPR was made in the latter part of April 1953, and recipients were informed that thenceforth these documents would be distributed quarterly. This decision was made by the Chief of Staff upon a recommendation from Plans Division in April. In addition to the distribution to the services tabulated above, the APD and the WDPR were distributed also as follows:

	APD	WDPR
Headquarters, AFSWP	13	13
Headquarters, Field Command	26	2
Military Liaison Committee	1	0
Weapons Systems Evaluation Group	0	1
Joint Chiefs of Staff (Rainbow Team)	1	1
Division of Military Application, AEC	0	2
Research and Development Board	0	2
Joint War Room Annex	1	0
Assistant Secretary of Defense (AE)	1	1

Editions of the Advanced Planning Document were published and distributed also on 15 July and 15 October 1953. The format and the editorial policy remained the same: to present information from both official and unofficial sources, to be used for planning purposes only. Both of these editions covered essentially the same scope of information on special weapons, in two sections. Section I, "Operations", contained information under the following sub-titles: "Bomb and Shell Capabilities of Organizations"; "Warhead Capabilities of Organizations"; "Planned Atomic Weapons Carriers"; "Estimated Weapons Availability Date"; "Projected Completion Date of New Sites"; and "Committed Assembly Rates". Section II, "Personnel and Training",

was subdivided topically as follows: "Definitions"; "Authorized Personnel Strength of Typical Organizations"; "Capability and Training Progress of Organizations"; and "Technical Training Group Courses for FY 1953".

A new column, headed "Estimated Date of Retirement from Stockpile", appeared in the 15 October 1953 Advanced Planning Document. The need for this information signified that obsolescence of atomic weapons, by types, had become a consideration in military planning.

The Advanced Planning Document of 15 July 1953 contained 40 printed pages; that of 15 October 1953 contained 47 pages. The increased volume resulted from greater participation of the services in Special Weapons activities.

3-5-8. Equipment Requirements Program (ERP).

The Equipment Requirements Program of AFSWP, which forecast Special Weapons Equipment Requirements from January 1953 through Fiscal Year 1955, was forwarded to the Director, Division of Military Application, of the Atomic Energy Commission, by memorandum from Headquarters, AFSWP, dated 26 January 1953. (Ref. 82, subject "1 January 1953 AFSWP Equipment Requirements Program", file SWPPR 913.1). This memorandum indicated that the ERP was a planning document, and that detailed procurement action would be taken by the Commanding General, Field Command, through the Santa Fe Operations Office of the Atomic Energy Commission. It was noted, further, in the memorandum, that certain programs, such as the Atomic Demolition Munitions and the TX-14, were subject to review and revision as additional information became available, and that the development of a service-procured universal

delivery trainer would result in a reduction in the requirements for mock-ups of electrical components. Copies of the AFSWP Equipment Requirements Program of 1 January 1953 were forwarded to the services by similar cover letters on 26 January 1953. The letter to the Air Force specified that procurement action for Air Force equipment would be taken by the Commanding General, Field Command, upon receipt of the appropriate military interdepartmental procurement request (MIPR) or other authorization from the Department of the Air Force.

During February and March 1953, the Logistics Division, in coordination with the Plans Division of Headquarters, AFSWP, and Field Command, AFSWP, crystallized plans for the tri-service planning and logistics conference which was to be held at Field Command during the first week of April 1953. At this conference, the AFSWP presented guidance to the services for the preparation of statements of requirements for the ERP of 15 May 1953. By monitoring service discussions and answering questions, all representatives learned much concerning mutual problems. The efficacy of the conference was reflected in concise statements of requirements for the 24-month period commencing 1 July 1953, which were forwarded to Headquarters, AFSWP, by TS-RD letters from the Army and the Navy on 13 May 1953 and from the Air Force on 22 May 1953. Headquarters AFSWP, requested Field Command to formulate a draft of the Equipment Requirements Program for 1 July 1953, based upon the combined requirements of the services and AFSWP. During the period 8 to 12 June 1953, Lt. Colonel Alfred V. Van Hoozer, USAF, and Captain Myron D. Roepke, USA, of Field Command, assisted representatives of the Plans

Division and of the Logistics Division of Headquarters, AFSWP, in coordinating pertinent parts of the draft of the ERP with the three services. On 25 June 1953, the coordinated corrected draft of the ERP was returned to Field Command for printing.

This draft of the ERP indicated small over-all reductions in Mark 5, 6, 7, 8, 9 and 13 equipment requirements. The Mark 12 Mod 0 weapon had been eliminated and replaced by the TX-12-X1. There was an over-all reduction in this program. BETTY, BOAR and W-12/TALOS W appeared in the program for the first time. Requirements for Atomic Demolition Munitions were defined under Projects A, B, and C. Footnotes had been added to delineate responsibility of the services for procurement of items such as adaption kits and trailers in various missile programs, and the non-nuclear parts of the Mark 11 bomb. Universal delivery trainers, then procured by the services, did not appear in the ERP.

In the AFSWP section of this draft reductions were indicated, in training weapons for sites, resulting from the establishment of a maneuver pool for training exercises. Headquarters, AFSWP, deleted requirements for Mark 14, 16 and 17, which Field Command had included in the draft. The cover letter requested Field Command to re-examine the AFSWP position in the thermonuclear program in the light of the current delineation of responsibilities, and, upon completion of this action, to recommend minimum requirements to headquarters, AFSWP, for further review and approval.

In the Navy section of this draft, there were slight reductions resulting from the statement of requirements on a "per ship

or facility" basis rather than a "per team" basis. Requirements for one Marine assembly team appeared for the first time in the HONEST JOHN and CORPORAL programs. The Navy had also added eight trans-shipment points to handle special weapons.

In the Army section, requirements for Mark 9 training shells had been reduced from three to one per ordnance special weapons support (OSWS) battalion. New Army programs, however, such as atomic demolition munitions and Mark 13 for Fort Bliss (orientation), had increased the over-all Army requirements.

In the Air Force section, requirements were indicated which were considerably less than those stated in previous Equipment Requirements Programs, and the format of this section had been changed so that requirements were listed by end items for programs in which the detailed information was available. It is historically significant to note that the Air Force section of this ERP included depot stocks and replacement factors in end items, based upon operational experience. This procedure substantiated, in part, the generalization that "Special Weapons" were taking a normal place in the munitions system of the services. (As the President was to say, in his speech at the United Nations on 8 December 1953, ". . . atomic weapons have virtually achieved conventional status in our armed services." See par. 1-2f(5).)

On 17 June 1953, responsibility for the equipment requirements program was transferred to the Logistics Division of Headquarters, AFSWP, as directed by General Order No. 8, Headquarters, AFSWP, dated 20 April 1954, previously described. Further information about this program will be recorded in Section 12 of this chapter.

3-5-9. Weapons Programs.

To harmonize the deliveries of special weapons equipment from the Atomic Energy Commission with the requirements of AFSWP and the services, the Plans Division, during the year 1953, published three new weapons programs (two during the first half-year and one during the second) and revised five existing programs. The division also coordinated action with the services to establish priorities in new programs and to revise existing priorities, to adjust equipment deliveries to changing requirements. These actions are described below.

The original W-7/CORPORAL program, which listed priorities for equipping the Technical Training Group (TTG), the Unit Training Group (UTG), Sites Able, Baker and Charlie, the Sandia Special Weapons Depot (SSWD) and 29 Army organizations, was published and distributed on 5 February 1953. Deliveries of W-7/CORPORAL were scheduled to commence [redacted]

On 20 May 1953, Headquarters, AFSWP, published and distributed a TX-7-X1 Program for equipping 166 organizations, of AFSWP, the Navy and the Air Force. The first organization was scheduled to be equipped in March 1954.

On 5 March 1954, Headquarters, AFSWP, requested the services to furnish statements of the requirements and the desired order for equipping organizations for Mark 18 capability. On 20 March the Chief of Naval Operations (Op-36) sent a list of eleven organizations to be equipped, and G-3, Department of the Army, forwarded a statement that the "Department

of the Army does not foresee at this time a requirement for Mark 18 capability". Although the Air Force had indicated earlier, unofficially, an interest in the Mark 18 weapon, an official statement of the Air Force requirements was not received until November. By letter dated 6 November 1953, the Air Force indicated requirements of the Mark 18 for 6 Strategic Air Command Wings, 4 Aviation Squadrons, 3 Aviation Depot Squadrons, 5 Aviation Field Depot Squadrons, 2 Depot Squadrons, Special, and one Air Base adjacent to a national stockpile site. Since no critical shortages of Mark 18 equipment developed, no Mark 18 program was published by the AFSWP, and no further action on this matter was required.

Headquarters, AFSWP, formulated on 10 June 1953, a revised priority list for equipping Army, Navy and AFSWP organizations for Mark 9 capability. On 15 July 1953, AFSWP distributed the "New Priority List and Equipping Dates for Mark 9 Organization, Revised 10 June 1953" (Ref.83, letter, Secret-RD, 15 July 1953, file SWPPR 912.1, "AFSWP Mark 9 Program"). This list indicated that a total of fifty organizations of the AFSWP, the Army and the Navy had been equipped by the end of June 1953. As this fulfilled the existing requirements of the services, no further changes to the AFSWP Mark 9 program were contemplated.

On 6 February 1953, Headquarters, AFSWP, forwarded to Field Command a priority list for equipping 85 Navy organizations for Mark 12 capability; and on 10 March 1953 a similar list for Air Force units was forwarded, with the request that Field Command formulate a Mark 12 program. During May 1953, the Joint Chiefs of Staff set aside the development of the Mark 12 weapon and indicated that a TX-12-X1 weapon

[redacted]

would supplant it. Because of this decision, the Mark 12 program was held in abeyance; it was planned that the services would be requested to review the requirements and that a TX-12-X1 program would be published later.

By letter to the Assistant Chief of Staff, G-3, Department of the Army, dated 30 January 1953, Headquarters, AFSWP, requested the priority list for equipping Army units for W-7/HONEST JOHN capabilty. Marine Corps requirements were stated in the equipment requirements program of the Navy, dated 13 May 1953. The AFSWP W-7/ HONEST JOHN program was published and distributed by a letter dated 13 July 1953 (Ref. 84, letter, Secret -RD, SWPPR 912.1, 13 July 53, "AFSWP W-7/HONEST JOHN Program "). The priority list indicated that 28 organizations of the Army, the Navy, and AFSWP would be equipped for Mark 7/HONEST JOHN weapon capability [redacted]

On 12 May 1953, Headquarters, AFSWP, published a revised Mark 8 program and revised Mark 5, 6, and 7 programs which were adjusted to the delivery schedules of the Atomic Energy Commission and to the new requirements of the services. The revised Mark 8 program listed 117 organizations of the AFSWP, the Navy, and the Air Force for capability, and it indicated that all would be equipped by the end of July 1953. The combined revised Mark 5, 6, and 7 programs listed 215 organizations of the AFSWP, the Army, the Navy and the Air Force for capability in at least one of these weapons, and they indicated that all organizations would be equipped for Mark 5 and 7 [redacted] and for Mark 6 [redacted] Army organizations appeared in the Mark 5, 6, and 7 programs for the first time, with requirements for

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implosion systems for atomic demolition munitions.

Headquarters, AFSWP, forwarded to Field Command, on 13 August 1953, additional requirements of the Chief of Naval Operations for the Mark 5, 6, 7, and 8 programs and for the TX-7-X1 program, and requested that equipment be provided (Ref. 85, letter, Secret-RD, file SWPPR 912.1, 13 Aug 53, "Changes to Mark 5, 6, 7, 8 and TX-7-X1 Programs"). Field Command was advised, further, that these additions would be incorporated in the next published general revisions to the programs affected.

3-5-10. Manning of National Stockpile Sites King and Love.

a. Site King.

A proposal for the organization and manning requirements for Site King was submitted by Field Command on 27 May 1953. (Ref. 86, letter, FCPD, control 4 190, file 322, 27 May 53, "Proposed Personnel Authority"). This proposal was based on the requirements for Site Dog, modified as a result of: the experiences of Field Command; the recent manpower survey; and differences in facilities and geographical locations. The greatest differences, with regard to numbers, was in the security requirements. It was noted that as the numbers and the complexity of weapons changed the number of electrical personnel remained constant but the number of mechanical personnel increased.

After review by Headquarters, AFSWP, the proposal for Site King was submitted to the Assistant for Atomic Energy, Department of the Air Force, (AFOAT), on 19 August 1953. A detailed analysis and a comparison with Site Dog were included in the letter to the Air Force. The only recommended change from other organizations for national

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stockpile sites was the consolidation of the base and technical supply activities. This reorganization did not involve immediately any savings in manpower, but it was anticipated that after some experience a saving in manpower would develop.

At the end of the year 1953, the Air Force (AFOAT) proposed that the figures for Site King be reduced, under an entirely different concept of operation of national stockpile sites; namely: greater reliance by Site King on the support provided by the adjacent Air Force base. It was recognized that this concept could affect the integrity of national stockpile sites for the support of the functions of their primary mission. The AFOAT proposal was transmitted to Field Command for an analysis of the effect of the new concept. (Ref. 86, letter, AFOAT, 23 Dec 53, "(Uncl.) Proposed Initial T/D for Site King"; and 1st Ind., SWPPR 322 (23 Dec 53), dated 31 Dec 53.) A comparison of the AFSWP proposal, the AFOAT counter-proposal, and the organization at Site Dog is tabulated below:

Proposals for Manning Site King - Comparison

	Site Dog	Proposals for Site King	
		AFSWP Proposal	AFOAT Proposal
Officers			
Colonel	1	1	0
Lt. Colonel	3	4	1
Major	9	7	11
Captain	36	26	16
Lieutenant	46	38	31
Total	95	76	59
Difference		-19	-17
Airmen			
E-7	55	43	37
E-6	62	45	64
E-5	104	150	118

[redacted]

[redacted]

[redacted]

	(Site Dog)	(Proposals for Site King)	
		(AFSWP Proposal)	(AFOAT Proposal)
E-4	191	259	173
E-3	131	225	94
E-2	113	0	10
Total	656	722	496
Total Military	751	798	555
Difference		+ 47	-243
Civilians			
Graded	33	28	17
Upgraded	65	77	0
Total	198*	105	17
		+ 7*	-88**

* Ref. 86, letter SWPPR 322, 21 Aug 53, "Proposed Organization and Personnel Requirements for Site KING."

** Ref. 86, letter, AFOAT, "23 Dec 53, "(Uncl.) Proposed Initial T/D for Site KING."

b. Site Love.

The AFSWP proposal of 22 December 1952, to the Chief of Naval Operations, for manning Site Love, was transmitted to the Bureau of Ordnance, who had been designated as the cognizant Navy agency by the CNO. (See Vol. V, par. 3-5-24.) Several conferences ensued, to resolve differences between the recommendations of the Bureau of Ordnance and the proposal of the AFSWP.

On 21 May 1953, the Chief of the Bureau of Ordnance submitted a new proposal for comment and recommendations (Ref. 87, letter, BuOrd, Control 3955, file 320.3, "AFSWP Site LOVE Organization and Billet Structure; recommendations concerning", 21 May 53). Field Command was directed to submit its comments and recommendations, and they were received on 29 June 1953 (Ref. 87, Control 4911, file 320.3, 26 June 53, "BuOrd D/N Recommended Organization and Billet Structure

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for Site LOVE"). In general, there were few differences in the total numbers of the proposals, but a more important difference resulted from a change in the manning philosophy for national stockpile sites - i.e., maximum utilization of civilian employees. This philosophy was an extension of the enunciated policy of the Department of Defense to release the maximum numbers of military personnel for field service, by replacement with civilians, within ceilings and budget limitations.

The proposal of the Bureau of Ordnance for Site LOVE was based on a civilian complement of 165, whereas the Field Command proposal had recommended that 111 civilians be used in manning the site. This difference was debated at considerable length in Headquarters, AFSWP, in an attempt to arrive at a compromise acceptable to both Field Command and the Bureau of Ordnance. In the meantime it was decided to take separate action to procure the Marine Security Force, inasmuch as the requirements for this contingent had been agreed to from the beginning. Accordingly, a manning plan for the Marine guard force at Site LOVE was submitted to the Commandant of the Marine Corps on 20 November 1953 (Ref. 87, letter, SWPPR 320.3, 20 Nov. 53, "Manning of Marine Corps Barracks, [redacted] (Site LOVE)").

Early in December 1953, it was agreed that Headquarters, AFSWP, should fully support the position of Field Command. On 10 December 1953, a letter was forwarded to the Chief of the Bureau of Ordnance which set forth the manning requirements for Navy personnel and outlined a plan for progressive fulfillment. The reasoning behind the support of the proposal of Field Command was described in this letter as follows:

" The basic difference between the allowances recommended by BuOrd and that proposed by this headquarters is in the extent to which civilian personnel will be used. The Department of Defense

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policy, to use civilian personnel instead of military wherever feasible, is recognized. This policy has resulted in an average civilian personnel complement of 107 for all National Stockpile Sites (NSS's) and a specific recommendation of 111 for Site LOVE. To extend this policy further would seriously impair the capability of the NSS's to meet their operational commitments. Military personnel in support activities at the NSS's (such as supply, maintenance, administration, etc.) are required to function in a dual capacity. During periods of routine site operations they perform their basic function; but, in a time of maximum site operation, such as an actual or practice weapon transfer mission, they are an integral part of the procedure and are required to perform tasks which directly facilitate the operation. Examples of these secondary tasks are: carrier duties, operating vechicles, handling weapons, guarding and observing weapon movements, and assisting with the increased accounting paper work. Civilian personnel should not be used for these critical additional funtions because they are not subject to the same degree of command and discipline as military personnel. The personnel complement of an NSS is based on an average workload. The use of military personnel in a dual capacity precludes the need for standby augmentations which would be required only when the site operates at peak performance."

By 23 December 1953, the Bureau of Ordnance had recommended to the Chief of Naval Operations that Site Love be established at the same manpower level as Site Charlie (Ref. B7, letter, SWPPR 320.3, 10 Dec 53, "Armed Forces Special Weapons Project Site LOVE Organization and Billet Structure, recommendations concerning"; and 1st Ind., Chief BuOrd, to CNO, ATTN: OP-100, serial 001186).

A comparative summary of the various manpower proposals (exclusive of security personnel) is listed below:

Proposals for Manning Site Love - Comparison.

	Approved Allowance (Based on Site C)	FC Proposal	BuOrd Proposal
Officers			
CAPT	1	1	1
CDR	2	2	2
LCDR	7	7	7
LT	24	24	25
LTJG	17	17	18
WO	25	25	16
Total	76	76	69

[redacted]

	(Approved Allowance)	(FC Proposal)	(BuCrd Proposal)
Enlisted			
E-7	40	44	34
E-6	59	61	43
E-5	84	86	58
E-4	81	72	91
E-3	93	94	106
E-2	1	1	0
Total	358	358	332
Total Military	434	434	401
Civilians	111	111	165
Grand Total	545	545	566

c. General

Civilian personnel allocations required under these plans were transmitted to the Department of the Army by separate action for budget purposes. A plan for the civilians, by successive stages, was developed, and a corresponding allocation schedule was submitted, to cover the requirements for Sites King and Love.

Approximately one year was required to process and review the manpower requirements for Site Love. It was noted by the Plans Division, in retrospect, that the manpower planning for a national stockpile site required a minimum of 18 months lead time. In general, this time scale would be distributed as follows:

(1) Concept of operations with decision on interim allowances for technical personnel 3 months

(2) Procurement of initial requirements for technical personnel and entrance into individual training 3 months

(3) Individual training, concurrent refinement of manpower requirements, procurement of support personnel and final logistical support arrangements 6 months

(4) Unit training, including movement of advanced party and pack up 6 months

Total 18 months

3-5-11. Facilities for Long-Range Proving Ground.

The responsibilities of the AFSWP for the development of an air-transportable building, to be used for complete assembly of atomic weapons under controlled atmospheric conditions, were completed with the field tests during March 1953 and the delivery of final specifications to the Department of the Navy during April 1953. Field Command conducted complete assemblies to demonstrate the "CAS" (completely assembled for strike) building for service representatives at the conclusion of the field tests. Briefings included procurement instructions, which were in accordance with Department of Defense directive No. 4115.7, dated 6 September 1951, which assigned responsibility for procurement of pre-fabricated shelters of this type, for all agencies of the Department of Defense, to the Department of the Navy.

Planning action in this area of AFSWP responsibility was thus completed.

3-5-12. Reorganization, Activation, and Assignment of Units.

a. Army.

(1) Heavy Artillery Ordnance Support Detachment.

Table of Organization and Equipment (T/O&E) No. 9-49, dated 31 October 1952, was published for an Ordnance Special Weapons Direct Support Company. This organization was originally called a Heavy Artillery Ordnance Support Detachment.

One portion of the table - Section I (Orgn) - was classified Secret, while the other portion was classified Restricted. Action on this subject was thus completed in 1952.

(2) Very Heavy Artillery Support Group (VHAS Gp).

The following tables of organization and equipment of the Department of the Army were published and distributed - all dated 9 January 1953:

T/O&E	Designation	Classification
9-45 (Sec I)	Ordn Sp Wpns Bn	Secret
9-45	Ordn Sp Wpns Bn	Restricted
9-46 (Sec I)	Hq & Hq Det Ordn Sp Wpns Bn	Secret
9-46	Hq & Hq Det Ordn Sp Wpns Bn	Restricted
9-47 (Sec I)	Ordn Sp Wpns Co	Secret
9-57 (Sec I)	Ordn Sp Wpns Co	Restricted
19-77 (Sec I)	Mil Police Security Co	Secret
19-77	Mil Police Security Co	Secret

These T/O&E's contained provisions for Special Weapons Support Battalions and Special Weapons Depot Battalions.

The Department of the Army directed that the 1st and 2nd Very Heavy Artillery Support Groups be designated as the 9th and 15th Ordnance Battalions (Special Weapons Support), respectively. (Ref. 88, AGAO-I(M), 322 Gen Res (10 Feb 53) G-1, 4 March 53, "Change in Status of Certain Units".) Field Command accomplished this action, effective 1 April 1953, and activated the 12th Ordnance Battalion (Sp Wpns Depot) effective 10 April 1953. (Ref. 88, GO # 15, Hq. Field

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Command, 25 March 53, and GO #17, Hq. Field Command, 8 April 53.) The authorized strengths of these units (exclusive of the security companies, which were not the responsibility of AFSWP) were as follows:

Designation	Authorized Strength Off	WO	EM	Total
Hq. & Hq Det 9th Ordn Bn (Sp Wpns Sup)	7	1	32	40
Co A (Sp Wpns) 9th Ordn Bn (Sp Wpns Sup)	19	5	71	95
	26	6	103	135
Hq & Hq Det 15th Ordn Bn (Sp Wpns Sup)	7	1	32	40
Co A (Sp Wpns) 15th Ordn Bn (Sp Wpns Sup)	19	5	71	95
	26	6	103	135
Hq & Hq Det 12th Ordn Bn (Sp Wpns Dep)	7	1	30	38
Co A (Sp Wpns) 12th Ordn Bn (Sp Wpns Dep)	7	2	33	42
	14	3	63	80

(3) Reorganization of 901st CIC Detachment.

In accordance with the provisions of a letter from the Department of the Army, dated 28 March 1953, (Ref. 88, file G-2-CIC-400, "Revision of T/O&E 50-500A CIC Organization"), Field Command requested the reorganization of the 901st CIC Detachment. This reorganization was to be completed by 23 June 1953, under the revised Table of Organization and Equipment 30-500A, dated 23 December 1952. A summary of the differences is tabulated below:

	Officers Lt. Col.	Maj	Capt	Lts	Total	WO
Original Authorization	-	1	1	5	7	8
Recommended	-	1	3	2	6	12
Approved	-	1	3	2	6	9

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Enlisted

	E-7	E-6	E-5	E-4	E-3	Total
Original Authorization	8	7	6	1	1	23
Recommended	6	7	8	3	4	28
Approved	7	8	9	5	4	31

(Authority: a. Letter, SBCIC, 901st CIC Detachment, "Reorganization of 901st CIC Detachment", dated 29 May 53, and Ind. thereto, 1st through 5th, SWPPR 322, dated 9 Sept. 53 (Ref. 88); b. Department of the Army Personnel Authorization Voucher No. 39, dated 31 Aug. 53 (Ref.); c. Letter, D/A AGAO-I (M) (29 May 53), "Reorganization of the 901st CIC Detachment", dated 2 Sept 53 (Ref. 88); d. General Order #44, Hq Field Command, AFSWP, 23 Sept 53 (Ref. 88).)

(4) Assignment of 46th MP CID and 901st CIC Detachments.

The 46th Military Police, Criminal Investigation Detachment, (MP CID) stationed at Sandia Base, was assigned to the "Chief, AFSWP," by letter dated 9 January 1951 (Ref. 88, D/A AGAO-I 322 (2 Jan 51) G1-M, "Reorganization of Certain Military Police Criminal Investigation Detachments").

The 901st Counter Intelligence Corps (CIC) Detachment, also stationed at Sandia Base, was assigned to the "Commanding General, Field Command, Sandia Base," by letter dated 5 February 1951 (Ref. 88, D/A AGAO-I 322 (1 Dec 50) G1-M, "Activation of the 901st Counter Intelligence Corps Detachment").

Steps were taken to standardize these assignments to the AFSWP, so as to provide greater flexibility, and on 7 October 1953 both directives were corrected to read "AFSWP". (Ref. 88, letter AGAO-I (M) 322 (7 Oct 53), "Amendment to Letters", dated 7 October 1953.) In effect, this action decentralized the assignment and reassignment authority from Headquarters, AFSWP, to Field Command.

(5) Reorganization of Ordnance Special Weapons Battalions.

Late in the year 1953 (on 22 December), the missions of the Ordnance Special Weapons Support, and Depot, Battalions were changed, and revised tables of organization and equipment were published. In summary, the missions were broadened to include support for Combat Engineer Battalions, and the assignments of units were made more specific - that is, one Support Battalion for an Army and one Depot Battalion for a Theater of Operations. Allocations were to be based on this reorganization, and, in addition, one Depot Battalion was programmed for each three Support Battalions. The capabilities for the units were defined in terms of atomic demolition munitions, warheads, and projectiles. (Ref.88, SWPPR 320.3, "T/CAE's Ordnance Special Weapons Support or Depot Battalions," 22 Dec 53.)

(6) Activations and Inactivations

Activations of Army units were as follows:

Designation	Effective Date
Hq & Hq Det, 10th Ordn Bn (Sp Wpns Spt)	15 August 1953
Co A (Sp Wpns) 10 Ordn Bn (SWS) (Authority: D/A ltr, AGAO-I (M) 322 Gen Res (22 Jul 53) Gl, 10 Aug 53, "Activation of Unit Gen Res," Ref.88.)	
Hq & Hq Det. 14th Ordn Bn (Sp Wpns Depot)	17 November 1953
Co A (Sp Wpns) 14th Ordn Bn (SWD) (Authority: D/A ltr, AGAO-I (M) 322 14th Ordn Bn (23 Oct 53) Gl, 12 Nov 53, "Activation of 14th Bn (SWD) ", Ref.88.)	

Inactivations of Army units (which were inactivated as no longer required, since they had been established for overseas

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tests) were as follows:

Designation	Effective Date
18th MP CID 125th MP Provost Marshal Detachment (Authority: D/A ltr, AGAO-I (M) 322 (28 Sep 53) GI, "Inactivation of Certain MP Units, 6 Oct 53", Ref. 88.)	26 October 1953

b. Navy.

(1) Reduction of Officer Requirements in Organizations of Assembly Types.

In April 1953, a directive was received from the Chief of Naval Operations changing the composition of carrier assembly units, namely the C-D and G-K Divisions. The changes involved the loss of 87 officers and the gain of 54 enlisted men. (Ref. 89, letter, CNO, file OP-36 1/ac, serial 0211P36, "Reorganization of Navy Special Weapons Assembly Division", dated 8 April 53.) The reorganization was designed to establish more efficient assembly units, coupled with appreciable savings in manpower. The original purpose of the high proportion of officers in these units was to provide a ready pool of trained supervisors; a capability for war expansion was also provided.

A report was made to the Chief of Naval Operations that officers could be released six months after the enlisted personnel had completed the necessary training. Six months was considered the most favorable length of time for gaining sufficient experience to maintain division efficency.

In particular it was noted that radio electricians (RELEC) or electricians (ELEC) were recommended for the billet of Flight Test Box (FTB) Officer (Tech Monitor) and chief electronic electricians (EIC), chief intercommunications electricians (ICC) and

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chief electrician mates (EMC) were recommended for Nuclear Technician. The experience of the Navy special weapons units had proven that an electrician, a chief intercommunications electrician, or a chief electrician mate did not have sufficient electronic background to receive the training and perform the duties of Tech Monitors and Nuclear Technicians. The AFSWP recommended that the radio electrician for Flight Test Box Officer (Tech Monitor) and the chief electronic electrician for Nuclear Technician be retained as minimum requirements and that the alternates mentioned above be deleted.

(2) Reorganization of Allowances and Billet Supplements.

Some difficulty had been experienced in connection with the activation of Navy Special Weapons Units. The difficulty was caused by the Navy's method of allocating personnel spaces and assigning personnel, simultaneously with the establishment of the unit. This procedure created confusion at the base when personnel arrived who were already assigned to a new unit which was unknown to the base. To avoid this trouble, the Navy announced a plan for the establishment of projected units, as shown in the summary below. A consolidated allowance list was developed to reflect this plan.

No. of Teams	Type*	Allowance Established	Readiness Date	Off.	EM	Total	Ident.**
3	CV-9-16	Jul 53	1 Jul 54	5	19	24	471-L
	CV-9-17	Jul 53	1 Jul 54	5	19	24	802-L
	CV-9-18	Jul 53	1 Jul 54	5	19	24	1233-L
2	CVE-1	Dec 50	1 Jul 54	4	10	14	471-N
	CVE-2	Jul 53	1 Jul 54	4	10	14	802-N

* Designation used in proposed Billet Supplement.
** This designation was used for identification with previous SWU Divisions.

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(No. of) (Teams)	(Type)	(Allowance) (Established)	(Readiness) (Date)	(Off.)	(EM)	(Total)	(Ident.)
4	CA/CL-GM-1	Billets for SS	1 Jul 55	2	4	6	471-E
	CA/CL-GM-2	Teams to be	1 Jul 55	2	4	6	802-E
	CA/CL-GM-3	utilized. (In	1 Jul 55	2	4	6	471-C
	CA/CL-GM-4	-put July 54)	1 Jul 55	2	4	6	802-C
2	MartSAT-3	1 Sep 53	1 Jul 54	2	6	8	471-M
	MartSAT-4	Dates indef-inite for second team	--	2	6	8	802-M

This innovation in allowance lists facilitated the planning of unit training, personnel assignments, and transfer of units upon completion of unit training. (Ref. 89, Letter, Hq, AFSWP, file SWPPR 320.3, dated 16 July 1953, "Officer and Enlisted Allowances for AFSWP Sandia".)

Clarksville Base requested, on 22 September 1953, the broadening of the description of the billet for a Safety Officer to include: "duty involving training with and the demolition of explosives". This change would permit the officer, if qualified, to draw incentive pay for extra hazardous duty and would authorize one enlisted assistant who would also be entitled to draw pay for extra hazardous duty. The Chief of Naval Operations had not acted upon this request when the year 1953 ended.

(Ref. 89, 2nd Ind., Hq, AFSWP, file SWPPR 320.4 (22 Sep 53), dated 19 November 1953, to letter, Clarksville Base, "Officer Billet Description; request for change in", dated 22 September 1953.)

(3) Navy Legal Officers.

By December 1953, Navy personnel qualified for the category 1620 had become unavailable to the AFSWP, because of the program for reduction of service manpower. Accordingly, various billets of this category within the AFSWP were being designated 1100, with the requirement the personnel assigned be qualified lawyers.

(Ref. 89, 1st Ind., Hq, AFSWP, file SWPPR 200.3 (17 Nov 53), dated 7 Dec 53, to letter, FCMO, dated 17 Nov 53, "Revision to Naval Administrative Unit Clarksville Allowance".)

(4) Marine Naval Aviator Billets.

The Commandant of the Marine Corps, in a letter dated 11 September 1953, proposed to order out, without relief, one Marine aviator at Field Command, as one Marine aviator remaining was considered an equitable representation. The Marine officer to be ordered out was required by the Plans Division of Field Command to discharge functions in the Equipment Requirements Program, and it was recommended that the billet be filled by either a Marine ground officer or a Naval line officer. A decision on this substitution had not been made when the year 1953 ended.

(Ref. 89, Letter, Hq, AFSWP, file SWPPR 32.3, dated 22 Oct 53, "Marine Naval Aviator Billet, proposed reduction".)

(5) Weapons Development Officers for Field Command.

Activity in the Weapons Branch and Warhead Branch at Sandia Base increased during the latter part of the year 1953 as a result of additional weapons developments. The BETTY and BOAR programs then required the full-time services of an officer to discharge the Navy responsibilities; and thermonuclear developments had increased to a point where a full-time project officer was required for the TX-14, -16, and -17 programs.

At the end of the year, a request for an increase in AFSWP manpower of two lieutenants (1100 and 1300) was being prepared for submission to the Chief of Naval Operations.

c. Air Force.

(1) Aviation Squadron.

Table of Distribution 1-1963 (Uncl.) Aviation Squadron, dated 1 December 1952, was published and distributed, completing the implication of the AFSWP in this matter.

(2) Aviation Field Depot Squadron.

Table of Organization 1-1935 (Uncl.) Aviation Field Depot Squadron, dated 1 October 1952, was published and distributed. Recommendations were made for the inclusion of two additional weapon electrical technicians (Nucl. Tech.), in order to provide additional personnel in isolated areas, for surveillance, in the event that nuclear capsules were deployed. (Ref. 90, letter, SWPPR 320.3, to AFOAT, 23 Sep 52, "Revision of USAF Table of Organization No. 1-1935T".)

(3) Tactical Support Squadron.

A report of an Air Force conference during the period 18 to 21 November 1952, for the purpose of examining the established concept of weapons support for tactical atomic forces, was submitted to Headquarters, AFSWP, for comment on 28 January 1953. (Ref. 90, letter, AFOCP, 28 Jan 53, "(Uncl) Revision of Weapons Support Concept for Tactical Atomic Forces".)

This conference concluded that operational efficiency and flexibility could be considerably improved by providing an augmentation to the combat unit which would allow the maintenance of ready weapons at the strike base, rather than dependence upon the supply of these weapons to several bases from a centrally located Tactical Support Squadron, as under the current concept. The recommendation was made: "That the supporting concept described in this report be approved and put into effect where applicable throughout the USAF as soon as practicable".

In effect, this proposal would have changed the concept of the organization of the Tactical Support Squadron from a unit to a cellular concept.

The AFSWP was requested to submit comments regarding the feasibility of the proposal from a training standpoint. Field Command submitted its comments, and they were used as a basis for the reply from AFSWP. (Ref. 90, SWPOT 322 to Director of Operations, Hq, USAF, dated 6 March 53, "Revision of Weapons Support Concept for Tactical Atomic Forces".)

The AFSWP was advised by Headquarters, USAF, that the final position of the USAF Air Staff had not yet been established, and that as soon as this position was established the AFSWP would be furnished information on the mission of the proposed cells and the numbers to be trained, with a time scale. (Ref. 90, 1st Ind., AFOCP, file 322, Hq, USAF, 31 March 53.) Subject to final approval of this revised cellular concept, Headquarters, USAF, was planning to reorganize the 4th Tactical Support Squadron and to form an overseas Depot Storage Unit. None of the personnel training of the 4th Tactical Support Squadron would be lost, however, since the skills would be used in overseas depot storage.

(4) Reorganizations.

Conversion lists of Air Force Tables of Organization were received late in the year. These conversions modified the Tables of Organization for Aviation Field Depot Squadrons (1-1935), for Tactical Support Squadrons (1-1953), and for Aviation Squadrons (1-1953), to reflect the new Air Force career fields for officers and airmen. (Ref. 90, letter, SWPPR 320.3, dated 2 Nov 53, "T/O Conversion Lists".) (See also

sub par. (1), (2) and (3) above.)

In addition, a minor change in the organization of the Air Force Depot Squadron was made, to add a clerk and a chief clerk for duty as accounting technician and administrative supervisor, respectively. (Ref. 90, letter FCPD, dated 9 Jan 53, "T/O Change Request, 14th AFDS"; and 3rd Ind., SWPPR 320.3, dated 17 Aug 53.)

(5) Activations and Inactivations.

Activations of Air Force units were as follows:

Sandia Base	Effective Date	Authority
550th Aviation Sq.	18 Aug 53	GO 86, Hq Comd, USAF, 2 Jun 53
5th Tactical Support Sq. *	18 Sep 53	GO 46, Hq Comd, USAF, 19 Jan 53
20th Aviation Depot Sq. **	18 Sep 53	GO 46, Hq Comd, USAF, 19 Jan 53
502nd Aviation Sq.	18 Sep 53	GO 46, Hq Comd, USAF, 19 Jan 53
504th Aviation Sq.	18 Nov 53	GO 55, Hq Comd, USAF, 28 Jul 53

At the end of the year 1953, action was being taken to advance to an earlier date the activation of the 1091st Special Reporting Squadron for Site Item, from March 1954 to 15 January 1954. Primarily, this earlier activation date was desired to ensure the readiness of the unit upon completion of construction for beneficial occupancy.

Inactivations of Air Force units were as follows:

* Deleted by GO 59, Hq Comd, USAF, 12 Aug. 53.
** Deleted by GO 52, Hq Comd, USAF, 17 Jul 53.

Sandia Base	Effective Date	Authority
19th Aviation Field Depot Sq.	18 Nov 53	GO 83, Hq Comd, USAF, 15 Oct 53
14th Aviation Field Depot Sq.	8 Dec 53	GO 94, Hq Comd, USAF, 27 Nov 53

Most of the activity in activations and inactivations was the result of reductions in USAF manpower programs and of changes in plans for construction of overseas storage. Also, the Air Force was in the midst of changing their concept of atomic weapons support. This subject is treated elsewhere herein (see par. 3-5-12c (3) above).

(6) Authority to Modify Air Force T/D's.

Previous instructions required that all changes to Air Force Tables of Distribution for AFSWP units would be submitted to the Director of Manpower and Organization, Headquarters, USAF (AFOMO), for approval, providing the changes were within current authorizations of grades and numbers. If the changes involved increases or decreases in numbers and grades, or significant changes in mission or organization, the revisions of the Air Force Tables of Distribution would be submitted to the Assistant for Atomic Energy, Headquarters, USAF (AFOAT), for approval.

Considerable difficulty was experienced by Field Command in submitting an actual manning report (on 9 August 1953) based on authorization instruments which were four months old. This "lead time" of four months was required by Headquarters USAF, to program total authorized USAF manpower strengths. As a result of this difficulty, it was learned that many unauthorized Air Force specialty codes (AFSC) were being used by Field Command in composing Tables of Organization and

submitting changes. Steps were taken to include Headquarters, Field Command, in the distribution of changes to the Air Force Manual, 171-5, Section XXIII, which established currently authorized Air Force specialty codes.

(Ref. 90, letter, SWPPR 320.3, dated 21 Aug 53, "Non-T/O Personnel Authorization Table for 1090th USAF Special Reporting Group"; and 1st Ind. AFOMO-O-3, dated 14 Sep 53.)

A number of changes were processed as a result of the discontinuance of revisions during the Manpower Survey action (see par. 3-b-16 herein). Good management indicated that authority for minor incidental changes should be decentralized, to expedite action and to reduce the work-load of Headquarters, USAF.

The Director of Manpower and Organization granted to the AFSWP authority for direct communication with Headquarters Command, USAF, to accomplish these incidental revisions. (A summary of this action was contained in Memorandum for Record on 2nd Ind., 18 Sep 53, to basic letter, file SWPPR 320.3, 27 Aug 53, "Tables of Distribution 1090th Special Reporting Wing"; Ref. 90.)

(7) Establishment of Student Squadron.

The Director of Manpower and Organization, Headquarters, USAF, advised the AFSWP that the establishment of a student squadron could be accomplished by requesting Headquarters Command, USAF, to publish a General Order. (Ref. 90, letter, AFOMO-A, 5 Jan 53, "Establishment of a Student Squadron".) The unit was to be designated "1090th USAF Special Reporting Squadron (Student)". The crux of the problem was securing 300 officer and 250 airman troop spaces, and allocation of these spaces was under study by staff agencies of Head-

quarters, USAF.

By indorsement to tracer action of Headquarters, AFSWP (Ref. 90, letter, SWPPR 322.2, 10 Apr 53, "Establishment of a Student Squadron"), on 30 June 1953, Headquarters, USAF, advised that the student load at Field Command was recognized as a valid training requirement. All troop spaces devoted to individual technical training, however, were authorized by USAF Air Training Command, which selected, assigned, and administered Air Force students at non-Air Force schools. A joint study was directed to determine the feasibility of transferring technical training in the atomic energy program from the AFSWP to the USAF Air Training Command.

Contingent upon this study, Headquarters, USAF, allocated 300 officer and 250 airman student spaces, permanent change of station (PCS), for the 1090th Special Reporting Squadron (Student) effective with the November 1953 statistical reporting.

Allocation of these authorizations would establish an organization engaged solely in administration of students. The accruing advantages were:

(a) Clearer differentiation between permanently assigned and student personnel. Reduction in the numbers of personnel shown as over-strength would present a factual statistical picture of the Field Command mission and the distribution of its personnel resources.

(b) Centralized student administration during training at Keesler Air Force Base, individual training at Sandia Base, and eventual assignment to newly activated Air Force units at Sandia Base.

(c) Accurate information from Headquarters, USAF, on programming personnel into pipeline, personnel levies against major air commands, and changes to requirements for training courses.

(d) Efficient administration of personnel on temporary duty attending staff orientation, air crew and assembly courses. Personnel on temporary duty for assembly courses were usually cadre personnel returning from Air Force units to Sandia Base for additional and refresher training on new weapons.

The permanent party personnel for this organization were secured from resources available to Field Command and included in the recommendations of the tri-service manpower and management survey.

It was alleged that the joint study was required, as indicated above, because the Air Training Command and the Air University were the only Air Force commands authorized to carry the administration of Air Force students. It was contended, however, that the AFSWP was an Air Force organization. The problem was not solved before the end of the year 1953.

(Ref. 90, letter, SWPPR 322.2, 13 Aug 53, "Establishment of a Student Squadron"; and letter, FCMO, SWPPR 322.2, 22 Sep 53, same subject.)

3-5-13. Procurement of Air Force Special Weapons Equipment.

By military interdepartmental procurement request (MIPR), 41-608-3-09D-55, to Field Command, AFSWP, dated 18 February 1953 (Ref. 91), the Air Force cited the funds required by the AFSWP to cover the requirements for Fiscal Year

1954, already stated to the Atomic Energy Commission. The forwarding letter which arrived with the statement of requirements by the Air Force, dated 22 June 1953, re-stated the position of the Air Force that the equipment requirements program (ERP) should be used for planning only and that the AFSWP should take no action to procure Air Force equipment until officially authorized.

Representatives of Headquarters, AFSWP, and the Air Force held conferences to establish mutually acceptable procedures for procurement of Air Force special weapons equipment.

Responsibility with regard to this subject was assumed by the Logistics Division, Headquarters, AFSWP, 17 June 1953. (See Section 12 of this chapter.)

3-5-14. Deployment of Naval Special Weapons Units.

The Chief of Naval Operations, by letter dated 27 February 1953, addressed to the Commanders-in-Chief of the US Atlantic and Pacific Fleets, and to the Chief, AFSWP, directed that the transfer of Naval special weapons units be completed at the earliest practicable dates, contingent upon the availability of adequate Fleet facilities for proficiency training and upon the completion of necessary arrangements with the Commanding General, Field Command, AFSWP. The Chief of Naval Operations indicated that Field Command and the Fleet Air Forces should communicate directly in arrangeing transfer schedules. This letter outlined ultimate team utilization, delineated the action

desired of the Fleet Commanders and of the AFSWP, and stated that:

"At some future date, when the capability exists, the responsibility for unit training of Assembly Divisions, and of replacement personnel, will be shifted to the Fleet Commanders. The individual training of Assembly Division personnel in the Technical Training Group at Sandia Base will necessarily continue within the foreseeable future. It is not envisioned that unit training responsibility will be assigned to Fleet Commanders prior to July 1954. Should the deployment of the last two (2) CVA-41 Assembly Divisions be required before the Fleets are in a position to take the responsibility for unit training, arrangements will be made for the assignment of additional personnel for the Unit Training Group at Sandia Base."

(Ref. 92, letter, Confidential-RD, CNO to CINC, US Atlantic Fleet) CINC, US Pacific Fleet, Chief, AFSWP, file OP-363/kg Serial 062P36, dated 27 Feb 53, "Navy Special Weapons Units; Assembly Teams for Aircraft Carriers".)

In order to transfer Navy organizations, as directed by the Chief of Naval Operations, Headquarters, AFSWP, requested Field Command to take the following actions:

a. To communicate directly with the Commander, Air Force, Atlantic Fleet (COMAIRLANT), and the Commander, Air Force, Pacific Fleet (COMAIRPAC) to arrange schedules.

b. To recommend to Headquarters, AFSWP, the resulting coordinated schedules, including: the specific organizations to be transferred to COMAIRLANT and COMAIRPAC, with recommended dates for deployment; the specific organizations to be assigned to activities of Field Command, AFSWP, with recommended dates for shifting administrative control to the Naval Administrative Unit, Sandia Base; and the recommended date for disestablishment of headquarters of Naval Special Weapons Unit 1233.

c. To equip the deploying units in accordance with instructions which would be forwarded by separate correspondence.

d. To report to Headquarters, AFSWP, information for the Chief of Naval Operations (OP-36) when the transfers had been completed. (Ref. 92, letter, Confidential-RD, Hq, AFSWP, to Field Command, SWPPR 322, dated 23 March 53.)

Coordinated action by the Navy and by agencies of the AFSWP resulted, on 15 June 1953, in the disestablishment of Navy Special Weapons Unit 802 at Sandia Base, by authority of Secretary of the Navy Notice 5450, dated 26 May 1953 (Ref. 93), and in the commissioning of the Special Weapons Unit, Atlantic Fleet (SWULANT), as a unit of the Air Force, Atlantic Fleet, at Norfolk, Virginia; it resulted also in the disestablishment, on 15 July 1953, of Navy Special Weapons Unit 802, by authority of Secretary of the Navy Notice 5450, dated 23 June 1953 (Ref. 93), and in the commissioning of the Special Weapons Unit, Pacific Fleet (SWUPAC), as a unit of the Air Force, Pacific Fleet, at San Diego, California.

In order to complete the assignment of personnel, units, and equipment, as directed by the Chief of Naval Operations, Headquarters, AFSWP, made the following recommendations, on 19 August 1953:

(1) That assembly divisions be transferred in accordance with the schedule furnished by Field Command, AFSWP.

(2) That Navy Special Weapons Unit No. 1233 be disestab-

lished on 15 September 1953, and that personnel transfers and reassignments be authorized as recommended by Field Command.

(3) That "Method Charlie" of equipping Navy Special Weapons Units be considered implemented on 15 September 1953. (See par. 3-5-26 hereinafter.)

(4) That the Chief of Naval Operations approve the program of complete implementation, with the understanding that: (a) AFSWP would provide requirements for Navy teams, augmenting the special weapons training group (SWUTG) organization of AFSWP, and would include requirements for these organizations with the requirements of SWUTG, in equipment priority lists; (b) equipment so provided would be transferred to the Navy when these teams and the responsibility for training Navy special weapons units were transferred from the AFSWP; (c) equipment in new programs for these teams, after transfer from special weapons training groups, should be provided from Navy requirements.

Headquarters, AFSWP, was advised that the Chief of Naval Operations had approved these recommendations on 8 September 1953, and transfers of personnel and equipment were made accordingly. The progressive transfer of CVA teams continued; as these teams reported into Field Command from their tours at sea on board a carrier, they were then transferred to the appropriate Special Weapons Unit, Atlantic Fleet, or Special Weapons Unit, Pacific Fleet.

On 31 December 1953, three CVA teams remained deployed at sea, to be transferred to Special Weapons Unit, Atlantic Fleet, and three other CVA teams remained deployed at sea to be transferred to Special Weapons Unit, Pacific Fleet - at the end of their respective tours, via Field Command. Two CVA-41 teams remained at Field Command, attached to Unit Training Group, to be utilized as instructors for Navy unit training, until the Navy assumed this responsibility. CV-9 Team No. 15 and CVE Team No. 1 also remained at Field Command to continue their unit training before reporting to their first carrier assignment, CVE Team No. 2 had been activated and was in training. CV-9 Teams Nos. 16, 17, and 18 were also on the schedule of Field Command for activation and training.

In accordance with the request and recommendations of the Commandant of the Marine Corps, Marine Corps Tactical Support Assembly Teams (MARTSAT) Nos. 1, 2, and 3 remained at Sandia Base under the operational control of Field Command. Submarine Warhead Assembly Teams (SWAT) Nos. 3 and 4 were also under the operational control of Field Command, and Nos. 5 and 6 were assigned to Field Command for training.

The transfer of teams and equipment from Field Command to Special Weapons Unit, Atlantic Fleet (SWULANT) and to Special Weapons Unit, Pacific Fleet (SWUPAC) proceeded according to schedule. The Navy had not indicated, when the year 1953 ended, when SWULANT and SWUPAC

would be assigned responsibility for unit training of Navy Special Weapons Units, nor the date when Field Command would be relieved of this responsibility. Tentatively, the date for both of these actions was 1 July 1954, as established in the original Navy letter.

3-5-15. Methods Improvement Program.

The Methods Improvement Program (MIP) of the Sandia Special Weapons Depot (SSWD) "coasted on its own initial inertia" during the early part of 1953. Major management problems, such as the establishment of a Special Weapons Materiel Control Office (SWMCO), were met, but required a major portion of the effort of the management Office of Sandia Special Weapons Depot. In spite of all, however, considerable savings were effected as a result of the program. Progress in this program was slow, because of changes in personnel in the Plans Division of Headquarters, AFSWP, and because of the establishment of a Field Command Management Office, and delays in the assignment of personnel to man that office; but the progress was sound.

Field Command employed management advisory personnel during the year and Headquarters, AFSWP, continued to provide documentary aids.

Further information about this program, and details on the establishment of the Department of the Army Work Simplification

Program, may be found in the chapter of this history which is devoted to Field Command. (See Chapter 4, hereinafter.)

3-5-16. Joint Organization and Management Survey of AFSWP.

In the preceding volume of this History (Vol. V, par. 3-5-37b), the record of the survey of the organization and management of AFSWP by a joint survey team was continued, parenthetically, somewhat beyond the end of the year 1952. It was stated that the joint survey team had resumed their survey of Headquarters, AFSWP, on 5 January 1953, and had recommended a reduction there of 13 spaces; also, that a formal report of the findings and recommendations of the team was forwarded to the AFSWP by a letter signed jointly for the three services, dated 16 January 1953. (Ref. 94.)

The AFSWP was requested to address its comments and recommendations to the Chief of Staff, USAF (Attention: Air Force Director of Manpower and Organization (AFOMO)), with copies to the Chief of Staff, USA (Attention: Assistant Chief of Staff, G-1), and to the Chief of Naval Operations. Thus, in effect, the Director of Manpower and Organization, Headquarters, USAF, became the executive for the completion of the recommended survey action.

This "Manpower and Management Survey" was the first survey of the AFSWP conducted by a higher headquarters. The earlier requests by the AFSWP for increased personnel authorizations had "made it

desirable to validate its manpower requirements by a joint survey".

The conclusions and recommendations of this survey were as follows:

"Conclusions:

"1. Unilaterial Action

"Logistics and training requirements, and manpower and other resource allocations, laid on the AFSWP unilaterally by each Service, impose serious obstacles to effective planning and the efficient operation of the AFSWP. This situation can be reduced by more joint and less unilaterial action on the part of the Service in dealing with the AFSWP.

"2. Security

"a. Personnel security requirements as established by law and administered by the AEC and the AFSWP generate an extensive administrative workload.

"b. Physical security policies and standards established by the AFSWP create a manpower requirement for security personnel and reserve forces which is questionable.

"c. Those security policies, standards and requirements established by the AFSWP should be thoroughly examined and validated jointly by qualified intelligence, security, and manpower personnel of the three Services.

"3. Logistics

"a. The division of supply responsibility between various staff organizational elements within Headquarters, Field Command, precludes maximum effectiveness in logistics planning, programming, and policy determination.

"b. The Sandia Special Weapons Depot performs an operational supply depot function, yet it is directly under the command of the Director of Special Weapons Development and Logistics. This command arrangement does not permit a clear delineation between staff and operational functions, and does not provide for the most effective staff guidance and depot management.

"c. Since AFSWP is a tri-Service organization, it is dependent upon all three Services for some degree of logistics support and at present the normal Service supply problems are compounded when encountered by this Command. The logistics operating procedures of AFSWP are being developed to take advantage of the best parts of the three Services' systems.

"4. Organization

"Greater organizational and administrative effectiveness of the Headquarters, Field Command, AFSWP, can be achieved by:

"a. Consolidating the staff responsibility for special weapons and 'common items' logistics in one major staff organization under one staff officer.

"b. Limiting the number of Air Force and Army administrative holding units to one for each Service.

"c. Placing the operational functions of the Command (TTG, UTG, and the SW Depot) in the command line, relieving staff directorates of the command responsibility for these operating functions.

"5. Pool

"The existence (at Sandia Base) of a continuing pool of uncleared personnel awaiting training, cleared personnel awaiting training, and Technical Training Group graduates awaiting assignment is a waste of manpower which is beyond the control of AFSWP. Currently this is primarily an Air Force problem which can be alleviated by (1) clearance of personnel prior to their arrival at Sandia Base; (2) a more realistic unit activation program; (3) better control of the pipeline flow to Sandia Base.

"6. National Stockpile Sites

"Manpower requirements of the National Stockpile Sites, although not considered by this survey, are an integral part of the manpower requirements of the AFSWP, and should be examined jointly rather than unilaterally.

"7. Manpower Requirements.

"Despite its existing external difficulties, the AFSWP is capable of effectively accomplishing its present mission with less manpower than it is now authorized by current manning documents.

"Recommendations:

"1. Joint Action

"The three Services take joint action rather than unilateral action with respect to:

"a. Effecting reduction of manpower authorizations recommended in paragraph 7 below.

"b. Forecasting training loads to be laid on AFSWP.

"c. Allocating resources (including manpower) to AFSWP on a regular basis.

"2. Security

"A joint study be made of personnel and physical security requirements of AFSWP by the Army, Navy and Air Force. This study should include a review of the intelligence estimates upon which security requirements of AFSWP are based; of the security policies, standards, and procedures established by AFSWP; and of the size and disposition of security forces, including the number and manning of guard posts, the size of alert forces, and the potential back up for security forces in case of emergency.

"3. Logistics

"Joint assistance by the Services be provided the AFSWP to (1) alleviate those logistics problems stemming from its dependence on three different supply systems; (2) establish more effective and efficient supply channels, functional and structural organization, and policies and procedures for Field Command operation.

"4. Organization

"a. Army and Air Force administrative holding units be reduced to one for each Service (with the exception of the hospital) by discontinuing the 8470th AAU, 8463d AAU, and the 1083d Special Reporting Squadron.

"b. The staff responsibility within Field Command Headquarters for special weapons and 'Common Items" type logistics be placed in one logistical staff organization.

"c. The Special Weapons Depot, the Technical Training Group, and the Unit Training Group be placed organizationally in the Command line under the Commanding General, separating and clarifying Field Command staff and operational functions.

"5. Pool

"a. The personnel staff of each Service, and the AFSWP, review the feasibility of obtaining security clearances for personnel prior to their assignment to AFSWP.

"b. The Headquarters USAF Staff (manpower, operations, personnel, and training) coordinate more closely the activation of special weapons units and the requisitioning of filler personnel with the out-put of Technical Training Group graduates.

"6. National Stockpile Sites

" A joint manpower survey be made of National Stock-

pile Sites by the Army, Navy, and Air Force in order that manpower requirements (exclusive of the administrative requirements peculiar to each Service) be standardized for each Service.

"7. Manpower Requirements

"The organizational, functional, and manning recommendations be implemented. Concurrently, it is recommended that the manpower authorization of the AFSWP be changed as follows:

	Officers	EM	Civs	Total
Present Authorization				
Headquarters, AFSWP	114	51	117	282
Headquarters, Field Command	578	818	483	1879
Sandia Base	151	1259	930	2340
Total	843	2128	1530	4501
Recommended Authorization				
Headquarters, AFSWP	110	47	112	269
Headquarters, Field Command	490	639	442	1571
Sandia Base	145	1081	764	1990
Total	745	1767	1318	3830
Difference (Recommended Reduction)	98	361	212	671 "

Reclama comments from Field Command, Sandia Base, and Headquarters, AFSWP, were compiled and transmitted to the services on 16 February 1953 (by letters, SWPPR 320.5, "Manpower and Management Survey", Ref. 95). The general comments and recommendations of AFSWP on the survey report were as follows:

"a. Joint Action

"It is believed that the method of presenting the Services' requirements to AFSWP, and the Service procedures for reviewing the manpower requirements of AFSWP should be determined by the Services.

"b. Security

"A study of personnel and physical security requirements for storage sites was made by an Ad Hoc Working Group, con-

[redacted]

sisting of representatives of the Department of the Army (G-3), Department of the Navy (OP-36), Air Force Operations and Logistics Plans, AFSWP, and AEC. The results of this study are included as Appendix B to the preliminary Report on Future Storage Requirements for Atomic Weapons, dated 13 September 1952. In part, the conclusions of the study state:

> 'The very high degree of physical security and rigid construction criteria provided at the [redacted] National Stockpile Sites and [redacted] Operational Storage Sites are consistent with the function of those installations, and the cost in manpower requirements is fully justified. Any re-evaluation of security requirements for these installations should be made on the basis of effectiveness of specific security measures and not with the view of reduction of the actual security provided.'

"This headquarters concurs in the validity of the Statement of the Working Group. Security measures in existence have been determined as a result of meetings on this vital subject with the Joint Congressional Committee on Atomic Energy and the Joint Chiefs of Staff, and following detailed consultation with the Atomic Energy Commission. While an evaluation of the effectiveness of security measures, including personnel required, would be welcomed, before any reduction is effected the security and defense of the sites must be evaluated at the Joint Chiefs of Staff level. Because of the fact that the first element of the Emergency External Defense Force from Fort Hood cannot be expected to arrive in this area in less than twelve hours after notification, the Military Police Group at Sandia Base has been trained as a reduced infantry battalion. While the Special Weapons Units and Headquarters Detachments are organized into Provisional Defense Units, they lack the ability for rapid combat movement that repeated tests have shown to be essential for protection of a national stockpile of fissionable material located in this area. Therefore, the proposed reduction of the strength of this group cannot be concurred in. It is agreed, however, that the security forces should be reorganized, and a current survey at Field Command expects to accomplish the necessary reorganization.

"c. Logistics

"A command-sponsored survey at Field Command, still underway, was partially completed when the Joint Survey Team arrived. It is indicated that the survey now in progress at Field Command will result in a reorganization which will eliminate such duplication of functions as now exist within that headquarters. Consideration is being given to placing the Sandia Special Weapons Depot, TTG and UTG in the command line. A survey of Headquarters, AFSWP, will soon be initiated for similar purpose, with specific emphasis regarding apparent conflicting responsibilities between the IS & S Branch, O & T Division,

[redacted]

[redacted]

and the Logistics Division. It is not considered feasible that AFSWP adopt any one Service logistic procedure in view of its tri-Service responsibility. However, any system employed by AFSWP must be fully responsive to the logistic systems of all three Services. As in the past, the assistance of the three Services in determining the logistics procedure to be adopted will be welcomed. It is the opinion of this headquarters that AFSWP utilization of the most practicable portions of the various Service supply systems and logistical procedures, in each instance within the AFSWP organizations, i.e., between the sites and supporting agencies, and between AFSWP and the Services, is a most effective means of alleviating logistics problems stemming from dependence on three different supply stems. AFSWP carefully avoids duplicating any existing Service activities. Advantage is taken of all logistical support available in the three Services, although a large part of AFSWP procurement is necessarily from AEC. AFSWP receives the benefit of the Service storage and distribution facilities, employs accounting procedures and depends on Service audit agencies.

"d. Organization

"This headquarters concurs in the recommended reduction of Army and Air Force holding units to be one unit for each Service.

"e. Pool

"Concur that the Services should obtain security clearances for personnel prior to assignment to AFSWP. Lack of this policy in the past has resulted in the loss of many man hours, as well as unnecessary utilization of barracks space and facilities at Sandia Base by personnel awaiting clearance.

"f. National Stockpile Sites

"This headquarters believes that a command-sponsored survey of the National Stockpile Sites, with a view for standardizing the operational and logistic functions as they pertain to the Special Weapons field, will accomplish the results desired by the Services. Such a survey now underway, with recommendations for changes, is expected to be completed by 1 May 1953.

"g. Manpower Requirements

"(1) Attention is invited to the Field Command portion of Survey Team Report, wherein the Survey Team recommends that the Logistics Division be reduced to 20 civilians. Actually recommended, are 18 civilians. This misprint erroneously resulted in the recommendation for the reduction of 671 spaces for AFSWP.

"(2) Concur in 344 of the 673 spaces which were recommended for reduction by the Survey Team. The intent of the com-

mand-sponsored survey program is to accomplish a validation of actual personnel authorizations, a reorganization to achieve more effective and efficient operation, and to submit new Tables of Distribution in April or May of this year which would reflect the savings brought about by these actions. It is indicated that more savings can be realized as a result of the command-sponsored survey. The three Services will be informed of the results of this survey.

"(3) Of obvious concern to AFSWP is a method to be used in effecting the reductions recommended. Precipitous action in effecting the civilian reductions might well place Field Command in a difficult situation with respect to the local labor market, i.e., a lowering of morale and difficulty in hiring for authorized spaces due to a probable civilian attitude that AFSWP releases employees with little warning. Therefore, the reduction in force proceedings for civilian personnel should be effected in an orderly fashion in order to preclude the condition referred to above.

"(4) In the interest of achieving a final and firm basis for personnel authorizations within which this command may operate for FY 1953, the following action priorities are recommended:

"(a) Priority 1

"That final action by the Services on any portion of the Survey Report be withheld until the command-sponsored survey program is completed.

"(b) Priority 2

"In the event that the Services cannot agree with para. 3g(4)(a), the reduction should be limited to the total civilian and military cuts for which no reclama action is requested herein, and that AFSWP be given at least 90 days, from the date of the tri-Service decision, to achieve the reduction in civilian personnel."

In summary, the actions recommended, by numbers of personnel (exclusive of the sites), may be tabulated as follows:

[redacted] SECRET

Summary of Recommendations and Actions
for Reductions of Personnel
(as Result of Joint Manpower and Management Survey, January 1953)

Col. A Organization	Col. B Authorized				Col. C Recommended by Board				Col. D AFSWP Reclama				Col. E Final Action			
[redacted]	Off.	EM	Civ.	Total	Off.	EM	Civ.	Total	Off.	EM	Civ.	Total	Off.	EM	Civ.	Total
Hq., AFSWP	114	51	117	282	110	47	112	269	112	50	114	276	112	49	112	273
FC, AFSWP	578	818	483	1879	490	639	440	1569	525	692	461	1678	640	1804	1251	3695
Sandia Base	151	1259	930 *	2340	145	1081	764	1990	141	1205	857	2203	___	___	___ *	___
Total	843	2128	1530	4501	745	1767	1316	3828	778	1947	1432	4157	752	1853	1363	3968
Differences																
Col. B-C					98	361	214	673								
Col. B-D									65	181	98	344				
Col. D-C									33	180	116	329				
Col. B-E													91	275	167	533
Col. E-C					7	86	47	140								

3.5.64

* An adjustment of 16 civilian spaces was required to reach ceiling of personnel allotment vouchers (PAV).

[redacted] SECRET

RESTRICTED DATA
ATOMIC ENERGY ACT 1954

The Director of Manpower and Organization, Headquarters, USAF, as executive for the three services, on 23 March 1953, directed the reduction of 91 officers, 275 enlisted, and 167 civilian spaces. (Ref. 96, letter, AFOMO, 23 March 53, "Armed Forces Special Weapons Project Manpower Authorization".) By the same directive a new civilian personnel ceiling of 1778 (graded, 1056; ungraded, 722) was established for the AFSWP. Of this civilian ceiling, 112 graded positions were authorized for Headquarters, AFSWP, in the Washington, D. C., area. At this time the Department of Defense had directed, as part of the budget program, that the Department of the Army, which administered the AFSWP civilian program, would effect the employment level by 31 May 1953.

Field Command, AFSWP, was directed to submit changes to the current instruments for personnel authorizations, to reflect these reductions. Letters outlining these changes, and the distribution of the reduction by services, were submitted to the three services on 14 April 1953 (Ref. 97, SWPPR 200.3, 14 April 53, "Armed Forces Special Weapons Project Manpower Authorization"). These changes were as follows:

Recommended Authorizations to Effect Manpower Reduction

		Officers					
Service	Total	Col/ CAPT	LC/ CDR	Maj/ LCDR	Capt/ LTSG	Lts/ JG&EN	WO
Army	42	3	2	9	15	8	5
Navy	17	-	5	7	3	2	-
Air Force	32	1	-	-	12	19	-
	91	4	7	16	30	29	5

RESTRICTED DATA
ATOMIC ENERGY

Enlisted

Service	Total	E-7	E-6	E-5	E-4	E-3	E-2
Army	125	3	2	32	21	54	13
Navy	13	1	3	-	6	3	-
Air Force	137	-	-	47	32	27	31
	275	4	5	79	59	84	44

(Civilians (Army)

	Graded	Ungraded	Total
Hq., AFSWP	4	0	4
FC, AFSWP	39	124	163
	43	124	167

Reorganization was accomplished to eliminate the three units used as student personnel holding organizations (93-846 3d AAU, 93-8470th AAU, and 1083d SRS), and activation of the 1090th Special Reporting Squadron (SRS) (student) was proposed as a substitute, to administer Air Force students at Field Command. (See par. 3-5-12c(7).)

Inasmuch as these reductions were accomplished jointly, it was essential that the new instruments for personnel manning (the Tables of Distribution and the Navy Allowance Lists) should be published concurrently by 1 May 1953.

It was felt, in Headquarters, AFSWP, that the manpower survey had had the effect of educating AFSWP personnel on the importance of personnel spaces. The reorganization of Field Command had the effect of reducing administrative overhead and streamlining command and staff relationships. In addition, a number of unfilled personnel spaces were withdrawn from AFSWP. Unfortunately, the survey was accomplished hastily and prevented the personnel of Field Command and Sandia Base from completely evaluating the work-load factors used in applying personnel yardsticks. The effectiveness of the methods and procedures employed by the survey would be determined as the results were evaluated

during the months to come.

A landmark had been reached in establishing a base for personnel authorizations for the AFSWP. Joint action was taken on the survey, and it was important that the AFSWP receive the manning authorizations from the services concurrently, to permit distribution of resources for efficient operation.

On 20 October 1953, representatives from G-1, Department of the Army, communicated with the Plans Division concerning a survey of AFSWP personnel engaged in security functions at Sandia Base and at the National Stockpile Sites. The purpose and the background of this survey were outlined in a TWX message sent to Field Command on 22 October 1953 (Ref. 98), as follows:

"1. Reference is made to the report of the tri-service manpower and management survey of your command dated 15 January 1953.

"2. In the referenced report it was recommended that:

"a. Security: A joint study be made of personnel and physical security requirements of AFSWP by the Army, Navy and Air Force. This study should include a review of intelligence estimates upon which security requirements of AFSWP are based; of the security policies, standards and procedures established by AFSWP; and of the size of alert forces, and the potential back-up for security forces in case of emergency.

"b. National Stockpile Sites: A joint manpower survey be made of National Stockpile Sites by the Army, Navy and Air Force in order that manpower requirements (exclusive of the administrative requirements peculiar to each Service) be standardized for each Service.

"3. The Chief of Staff, U. S. Army, the Chief of Naval Operations, and the Chief of Staff, U. S. Air Force, have approved establishment of a joint team on or about 22 October 1953 to conduct the survey indicated in paragraph 2 above. The team will arrive at Field Command, AFSWP, on 5 November 1953 and begin their analysis of requirements on 6 November 1953.

"4. It is requested that the following information be

made available to the joint team.

"a. A presentation in your headquarters on 3 November 1953 on the mission, organization and functions, and the security policies, standards and procedures of the Military Police units at Sandia Base, and the security units at the National Stockpile Sites.

"b. A detailed briefing on the units indicated in paragraph 4a, above, by Field Command, AFSWP, at 0830, 6 November 1953.

"c. Detailed organization and functional charts of military police units at Sandia Base and AFSWP units at National Stockpile Sites. The charts should be available to the team on 6 November 1953 and reflect the number of officer, enlisted and civilian spaces authorized each element of these organizations. It is requested that the personnel spaces for the security units be broken down to indicate, where applicable, personnel authorized for: Administration, guardhouse, traffic patrol, train patrol, bus patrol, guard posts, and miscellaneous. It is further requested that the composition and number of personnel in alert forces be furnished the team.

"d. The current policies, standards and procedures of AFSWP on which the security of Sandia Base and the National Stockpile Sites is based.

"5. The team will be composed of approximately 15 members, all of whom have at least TOP SECRET security clearance. Names of the members, together with any additional information required, will be provided by this office on 27 October 1953."

Informal advise was received later that the survey would be delayed until approximately 1 February 1954. At the end of the year 1953, preparations were being made, but no further official information on the survey had been received.

(Ref. 99, letter, SWPPR 320.4, 25 Nov 53, "Preparatory Instructions for Tri-Service Survey"; and letter, SWPPR 320.4, 24 Nov 53, "Transmittal of D/A Forms".)

3-5-17. Authority to Modify Air Force Tables of Distribution.

The AFSWP was unable to transfer authorizations from one table of distribution (T/D) of the Air Force to another without

the concurrence of Headquarters, USAF (AFCAT); and control was exercised by Headquarters Command, as a major Air Force command receiving bulk personnel authorizations from Headquarters, USAF. In effect, this policy gave the tables of distribution the inflexibility common to tables of organization and equipment (T/O&E's). (Ref. 100, letter, FC, control 27366, file 320.3, 13 Feb 53, "Authority to Modify AF T/D's"; and indorsements thereto.)

The letter referenced above was indorsed to Headquarters, USAF, on 19 February 1953, requesting that the bulk allotments furnished to Headquarters Command, USAF, Bolling Air Force Base, be transferred to AFSWP. With such a transfer would go the authority to transfer personnel spaces and change Air Force Specialty codes (AFSC's) on Air Force tables of distribution, giving the AFSWP the needed flexibility in using authorizations for Air Force personnel resources.

Headquarters, USAF (by 2nd Indorsement, dated 9 March 1953), replied that personnel on duty with AFSWP must be assigned to an Air Force unit. Headquarters Command, USAF, had been designated as the command to which Air Force personnel would be assigned. Since Headquarters Command, USAF, did not have operational control of AFSWP T/D units, the functions of a major Air Force command for authorizing intra-T/D changes were assumed by the Air Staff, Headquarters, USAF, and, specifically, by the Director of Manpower and Organization.

Headquarters, USAF, required four months lead time to effect changes and to publish revised tables of distribution. A survey revealed that the Navy effected changes, including action to secure personnel to fill billets, on the average, in two weeks'

time; that the Army issued a bulk allotment which authorized T/D changes in a week to 10 days; and that Air Force changes (as noted above) had been in process normally three to four months. The differences in time required were a serious matter because the AFSWP, as a joint command, was dependent upon concurrent manning by the three services.

T/D revisions involving requirements for additional spaces, as a result of changes in mission, functions, reorganizations, or workload, were submitted for processing quarterly, while changes within current personnel authorizations could be submitted monthly. The Air Force Director of Manpower and Organization (AFOMO) processed the latter changes, while the Air Force Assistant for Atomic Energy (AFOAT) processed the former, through AFOMO.

Outside of possible orientation, this attempt to secure a more efficient means of meeting personnel space requirements was considered unsuccessful; the decision was made to allow the procedure to cycle: "If cogent difficulties arise, the procedure will be re-examined and appropriate recommendations will be submitted to the Air Force."

3-5-18. Field Command Sponsored Site Survey.

As a result of the tri-service Manpower and Management Survey conducted late in 1952 and reported in January 1953 (see par. 3-5-16 above), Field Command continued their survey of the National Stockpile Sites. On 20 October 1953, a letter was submitted to the three services (Ref. *101*) outlining the results of this survey and returning to the services the benefits of 44 military spaces (ac-

companied, however, by an increase of 23 civilian spaces - all Departments of the Army). A summary of these results is tabulated below:

Officers

	Total Off *	Flag/ Gen	CAPT/ Col	CDR/ LC	LCDR Maj	LT/ Capt.	LTJG Lt	WO
Army		+1		+1	+1	-1	- 3	
Navy	-18			+3	-5	-2	-15	+10
Air Force	+ 2		+1	+3	+2		- 2	
Total	-16	+1	+1	+7	-2	-3	-20	+10

* Exclusive of Warrant Officers.

Enlisted

	Total EM	E-7	E-6	E-5	E-4	E-3	E-2	Total Milit.
Army	-29	+ 2		- 3	-18	-5		-29
Navy	+ 9	+ 7	+3		- 5	+6	- 2	+ 1
Air Force	-18	+ 1	+2	- 2	- 3	-6	-10	-16
Total	-38	+10	+5	-10	-26	-5	-12	-44

Civilians

Graded	Ungraded	Total
-1	+24	+23

When the year 1953 ended, completed action had not yet been received from the services.

3-5-19. Roadable Container Study.

The study of the problem relating to the extent to which roadable containers should be provided, which was begun by the Plans and Requirements Division in 1952 (described in Vol. V, par. 3-5-38), was turned over to the Weapons Development Division early in 1953. The history of the Weapons Development Division (in Section 7 of this chapter)

should be consulted for further information on this study.

3-5-20. Proposed Changes to the Atomic Energy Act of 1946.

a. Emergency Direction of Production of Atomic Weapons.

The staff study on the subject of emergency direction of the production of atomic weapons, which had been prepared in draft form by the Plans and Requirements Division at the end of the year 1952 (see Vol. V, par. 3-5-39), was coordinated within Headquarters, AFSWP, with the Deputy Chiefs of Staff, and then forwarded to Field Command. There it was reviewed by the Commanding General, the Deputies, and the Chief of Staff. It was then forwarded to General Luedecke, at that time Acting Chief, AFSWP. When the requirements for a new study of the Atomic Energy Act arose, however, it was considered inappropriate to submit this document to higher authority and, on 20 March 1953, it was held up indefinitely. The conclusions of this staff study were as follows:

"23. The Department of Defense should draft an Amendment to Public Law 585 "(The Atomic Energy Act of 1946) "for presentation to the Congress at an appropriate time. It should also draft an appropriate Executive Order for use in promulgating such legislation or in substitution for Public Law 585 in the event that emergency powers granted to the President should permit him to set aside the provision of the Public Law.

"24. The objectives of such legislation or Executive Orders should be:

"a. To dissolve the Commission form of direction of atomic energy activities.

"b. To transfer the functions of the AEC to the Department of Defense.

"c. To permit the continuation in office of the Chairman of the Commission as the Assistant Secretary of Defense for Atomic Energy.

"d. To authorize the Secretary of Defense to reorganize internally the existing structure of the AEC as he may find necessary and, by mutual agreement, to transfer to other appropriate agencies such functions in the field of atomic energy as were not deemed appropriate for direction by the Department of Defense.

"25. As an aid to the reorganization of atomic energy activities from a peace-to-wartime (sic) basis, the AFSWP should maintain for the guidance of the Department of Defense:

"a. Drafts of DOD and JCS directives to be issued upon the outbreak of war.

"b. Tentative plans and draft directives for the internal reorganization of the AEC.

"c. A roster of the military status of key personnel of the AEC and lists of military personnel suitable for assignment to the key positions in the research and production activities.

"d. Tentative plans for the realignment of the AEC effort in research, development and production in the atomic energy field."

It was believed that these conclusions would be generally valid throughout the next three years, to 1 July 1956, after which the subject would have to completely re-examined.

(Ref. 102, SWP/53-111.)

b. Military Objectives.

At a meeting on 11 March 1953, the Chairman of the Atomic Energy Commission, Mr. Gordon Dean, tabled a proposal on nuclear power which involved changes in the Atomic Energy Act of 1946, as amended. General J. Lawton Collins, Chief of Staff, the representatives of the Joint Chiefs of Staff, thereupon stated that if changes in the Act were to be made, the Joint Chiefs of Staff desired to make recommendations to the Secretary of Defense on the objectives which they wanted to be achieved by

such changes.

On 20 March 1953, a directive was forwarded to the Chief, AFSWP, as follows:

"SM-615-53 20 March 1953

"MEMORANDUM FOR THE CHIEF, ARMED FORCES SPECIAL WEAPONS PROJECT

"SUBJECT: Proposed Revisions to the Atomic Energy Act

"1. At the meeting of the National Security Council on 11 March 1953, the Chairman of the Atomic Energy Commission indicated that the Commission would submit to the National Security Council certain proposed changes in the Atomic Energy Act of 1946, as amended, as an action on one of the agenda items under discussion.

"2. In light of the above, it is requested that the Chief, Armed Forces Special Weapons Project, prepare for consideration by the Joint Chiefs of Staff recommendations for transmittal to the Secretary of Defense as to objectives which from the military point of view should be provided for in the proposed legislation.

W. G. LALOR"

A report was accordingly prepared and submitted to the Joint Chiefs of Staff on 29 April 1953, with the following comments:

"2. The necessary changes to achieve the objectives listed in the enclosure would constitute major revisions to the Atomic Energy Act and in all probability could not be considered by the Congress presently in session. Submission of recommendations at this time for such major revisions was prompted by the following general considerations:

"a. Army revisions to existing laws should provide a satisfactory long-term solution.

"b. Minor changes to the Atomic Energy Act which might be recommended by the Department of Defense would not facilitate application of the present philosophy of divided responsibility for programs involving the military applications of atomic energy.

"c. Any revisions of the Act to provide for industrial power development and application would, of necessity, be major, particularly as related to control of information and to ability of industry to serve Defense requirements in the nuclear power field.

"d. Recent actions of the National Security Council point toward the necessity for assumption by the Department of Defense of increasing budgetary responsibility for atomic weapons and other programs for the military application of atomic energy."

The conclusions of the study were:

"3. Major revisions of the Atomic Energy Act of 1946, as amended, are necessary from the military point of view. The timeliness of recommendations by the Department of Defense for such revisions should be subject to further consideration and should be dependent upon the timing and the nature of changes recommended by the Atomic Energy Commission and upon the extent to which the Department of Defense is required to assume budgetary obligation for the atomic weapons program.

"4. At such time as amendments to the Atomic Energy Act of 1946, as amended, are proposed, the Department of Defense should be prepared to recommend legislation which would provide for the following objectives:

"a. That research, development, testing, procurement, production, distribution, storage and security of atomic weapons, atomic weapons components, and other devices for the military application of atomic energy shall be the responsibility of the Department of Defense.

"b. That the security classification "Restricted Data", as defined in the Atomic Energy Act of 1946, as amended, shall not be applicable to information concerning atomic weapons or other devices for the military application of atomic energy."

It was recommended that a letter be forwarded to the Secretary of Defense stating the general conclusions of the study and the contents of the comments quoted above.

This study was later published as JCS paper (Ref.*103*, JCS 2172/20, dated 6 May 1953) with the statement that the Joint Chiefs of Staff neither approved nor disapproved the conclusions. It was learned informally that the major objection to the paper was the budgetary problem involved.

(Ref.*104*, file 032.1, AFSWP Central Files.)

The project lay dormant until 1 December 1953, when the Military Liaison Committee, in a memorandum to the Chairman, Joint Chiefs of Staff, requested that the JCS state their views on the "Military Ob-

jectives to be Provided for in Proposed Atomic Energy Legislation" (JCS 2172/20). This action was initiated because the Bureau of the Budget had requested comments of the Department of Defense on the changes to the Atomic Energy Act proposed by the Atomic Energy Commission. The AFSWP was consulted in making these comments on the changes, but time had not permitted the acceptance of the objectives and changes of the Department of Defense.

On 9 December 1953, the Joint Strategic Survey Committee (JSSC) was assigned the responsibility of reassessing JCS 2172/20. General Luedecke met with that Committee on 22 December and agreed to prepare a draft of a decision on the JCS paper, for the Committee. This decision was to approve the paper as a long-range objective, and was to advocate certain immediate limited objectives. This work was assigned to the Plans Division on 22 December 1953; it embodied the following three tasks:

a. To make the changes to the Atomic Energy Act that were the result of the conclusion of JCS 2172/20.

b. To make the changes to the Atomic Energy Act that were the result of the immediate limited objectives stated as follows:

(1) To give the National Security Council the responsibility for major policy decisions on atomic energy matters affecting the common defense and security.

(2) To remove the term "Restricted Data" from the law insofar as it pertained to the military application of atomic energy.

(3) To ensure that no restrictions remained in the Act

which prohibited the transfer of functions relating to the military application of atomic energy to the Department of Defense upon either mutual agreement of the Department of Defense and the Atomic Energy Commission or the direction of the President upon the recommendation of the National Security council.

c. To check the changes recommended by the Atomic Energy Commission to see how they affected the limited changes of the Department of Defense.

The draft of the report of the Joint Strategic Survey Committee to the Joint Chiefs of Staff on JCS 2172/20 was delivered to General Luedecke on 31 December. This report embodied thirty pages of recommended long-range changes to the Atomic Energy Act, thirteen pages of recommended immediate changes to the Act, a copy of letter from the Military Liaison Committee to the Assistant Secretary of Defense (Atomic Energy), and a recommended letter from the Joint Chiefs of Staff to the Secretary of Defense which forwarded the recommended immediate changes. (Ref. 105, in Plans Division file.)

c. National Objectives.

On 10 June 1953, General Luedecke directed that a new study pertaining to the Atomic Energy Act be initiated, with a view toward overcoming the objections of the Joint Chiefs of Staff to the paper of 29 April 1953. The instructions were to take an "across the board" approach, looking at the problem from the point of view of an "informed citizen", in an effort to state the national objectives, rather than the purely military objectives to be achieved in changes to the Act.

On 25 June 1953, an outline of the proposed study was submitted to the Chief, AFSWP, and, on 1 July 1953, a meeting was held with the Chief and the Deputy Chiefs, in which general approval of the outline was obtained. Instructions were received to continue with the project on a priority second to that of the work required by the later project, "Armaments and American Policy" (see par. 3-5-38, below) and by other papers which might assume greater urgency.

On 20 October 1953, a report, entitled "Proposed Revisions to the Atomic Energy Act of 1946, as amended", was completed. The abstract of this report read as follows:

"As a part of the responsibility assigned to the Armed Forces Special Weapons Project, a thorough study was made of the entire atomic energy field in order to determine if there were any constructive changes that would provide better overall national defense. This study was not limited by any existing governmental administrative structure or military prejudice, but was processed from the point of view of a 'vitally interested citizen'.

"It was concluded that: (a) research, development, testing, production, distribution, storage and security of atomic weapons, atomic weapons components, and other devices for the military application of atomic energy should be the responsibility of the Department of Defense, and, (b) the term 'restricted data' should not be applied to information concerning the military application of atomic energy."

It may be noted that this report arrived at the same objectives that were stated in the staff study forwarded to the Joint Chiefs of Staff on 29 April 1953 (see par. 3-5-20b above). Thus, the efforts spent on this new report substantiated the soundness of the objectives originally stated on 29 April 1953. Inclosures to the new report embodied detailed changes to the Atomic Energy Act plus an Executive Order and a directive of the Department of Defense implementing these changes.

On 30 November 1953, the Plans Division distributed copies

of the detailed changes embodied in the above report to the other divisions in the AFSWP, requesting comments. All the divisions indicated that they were in agreement with the changes, but it was felt by some that the changes were too drastic.

The "across the board" study was reviewed by the Chief of AFSWP on 7 December 1953. He stated that the effect of the President's speech before the United Nations must be determined, that the draft of proposed legislation was too drastic, and that the legislation should provide for transfer of responsibility in increments.

3-5-21. Review of AFSWP Mission and Responsibilities.

As stated in the preceding volume of this History, the Plans and Requirements Division had prepared a draft of a study representing the combined AFSWP position (a consolidation of 18 studies) on the subject of the AFSWP mission and responsibilities, and had presented it to the Chief of Staff on 19 December 1952. (See Vol: V, par. 3-5-40.) This study was returned to the division by the Chief of Staff, with instructions to hold it until further notice. (Ref. 106, file 320.1)

3-5-22. Presentation of Equipment Requirements Program to Bureau of the Budget.

It may be useful to introduce this subject with some past history from the year 1952.

The AFSWP had presented its budget for Fiscal Year 1954 to the office of the Secretary of Defense and the Bureau of the Budget (BOB), jointly, on 20 August 1952. There were present: representatives of the AFSWP, the Department of the Army, and the Department of the Navy; Mr. Robert LeBaron, Chairman of the Military Liaison Committee; Messrs. John L. Holcombe and Clyde W. Elliott of the Office of the Secretary of

Defense; Mr. F. J. Sette, of the Research and Development Board; and Messrs. Schuldt, Cannon, and Grahl of the Bureau of the Budget. The representatives of the Office of the Secretary of Defense and the Bureau of the Budget accepted the AFSWP presentation for study.

Hearings on the budget had continued, and the requirements for training weapons were scrutinized carefully. Lt. Colonel A. S. Butler, USA, represented the Plans Division in the ensuring hearings. At an informal continuation of the hearings on 29 September 1952, special emphasis had been placed on the portion of the budget pertaining to special weapons requirements. Indications were that certain service requirements would be moved from Fiscal Year 1954 to Fiscal Year 1955. By memorandum, the Secretary of Defense requested each service to submit revised requirements.

To effect economies, the Office of the Secretary of Defense had ruled, on 17 December 1952, that the training weapon allowance of organizations would be limited to two per type per capability. The services stated their equipment requirements for 1 January 1953 in accordance with this ruling.

Headquarters, AFSWP, reviewed the requirements for special weapons equipment during February 1953, and, on 1 April 1953, completed a staff study reviewing the special weapons training programs of the services and of AFSWP, and changes thereto which might reduce the Fiscal Year 1954 budget requirements for special weapons equipment. It was concluded by this study that the equipment requirements of the AFSWP, the Army, and the Navy would increase during the Fiscal Year 1954 budgetary period; that over-all reductions in the Air Force re-

quirements would not materially affect the needs of AFSWP for Fiscal Year 1954; and that no reduction of the AFSWP budget for Fiscal Year 1954 could be recommended, based on the equipment requirements of the AFSWP and the services. It was recommended from this study that the AFSWP should not reduce the budget for Fiscal Year 1954 for requirements for special weapons equipment. At the end of Fiscal Year 1953 (30 June 1953), no budgetary reductions had been made which affected training equipment requirements.

The budgetary aspects of the equipment requirements were transferred, with responsibility for the Equipment Requirements Program, to the Logistics Division, Headquarters, AFSWP, on 17 June 1953, in compliance with General Order No. 8, Headquarters, AFSWP, dated 20 April 1953. (See par. 3-5-1 above.)

3-5-23. Impact of New Responsibility for Development of Atomic Weapons.

A major change in the Field of atomic weapons occurred when the Department of Defense was given the responsibility for the development of certain non-nuclear components of atomic weapons. Information concerning the effect of this transfer of responsibility from the Atomic Energy Commission upon the development functions of the AFSWP may be found in the history of the Weapons Development Division, in Section 7 of this chapter. During 1953, the participation of the Department of Defense was limited to: adaption kits which adapted an atomic warhead to a specific missile; other hardware developed for an individual weapon application; and the non-nuclear portion of gun-type atomic weapons. (See also Chap. 2, par. 2-2.)

On 24 February 1953, Field Command (by letter) recommended that the services be approached with certain proposals pertaining to responsibility for joint task groups (JTG's), preparation of special weapons equipment lists (SWEL's), training, and stockpile-to-target sequence for the XW-13/SNARK weapon. It was also recommended that these proposals apply to all weapons and weapon components developed as a result of divided AEC-DOD development responsibility. The proposals amounted to a change in the mission of the AFSWP, by transferring to the services responsibility for preparation of SWEL's for items developed by the services, as well as certain training functions. (Ref. 107, letter to Hq, AFSWP, file 320, 24 Feb 53, "AFSWP Responsibilities under the XW-13/SNARK Program".) In April 1953, a letter was written to the services and coordinated within Headquarters, AFSWP, with the Operations and Training Division and the Weapons Development Division, expounding the proposals presented by Field Command. This letter did not leave Headquarters, AFSWP, however, because of an intervening situation which had developed concerning AFSWP responsibilities. This situation was the result of correspondence between the Weapons Development Division and the services, which culminated in a delineation of development responsibilities in the area of participation by the Department of Defense in the development of components of atomic weapons.

It was now more apparent than ever that the change in development responsibility had an effect on other functions of the AFSWP, including, more obviously: training, storage, joint task groups, budget, and procurement. The basic question was: what functions will AFSWP perform on material developed and produced by the services or

by AEC-DOD as compared with those functions currently performed by the AFSWP on material developed and produced by the AEC?

A second letter to the services was composed, in which the basic question was posed and recommendations were made as to the delineation of responsibilities between the AFSWP and the services. In coordinating this letter with Headquarters, AFSWP, it was tentatively agreed that the following long-range objectives should be recommended to the services:

a. The services would be completely responsible for atomic weapons material developed and produced by them.

b. The AFSWP mission would be directed toward items developed and produced by the Atomic Energy Commission.

The method of approaching these long-range objectives, however, was the subject of much debate. So much so, that the original letter was changed a number of times and no letters were sent out until later in the year. If the many divergent thoughts could be condensed and classified into two factions, they might be represented by these two statements:

(1) The services should become self-sufficient wherever and whenever possible in atomic energy fields.

(2) There were still premiums to be realized in using a joint Department of Defense agency to perform certain functions for the services, regardless of who developed the related atomic weapons material.

At midyear, a "middle of the road" approach had been prepared which, in the main, pointed out the factors involved, asked

the basic questions, and shied away from firm recommendations. At that time, letters from the services indicated that they were quite aware of the implications involved and were establishing their own positions.

Later in the year (in August and October) the services were requested to state their desires concerning storage, training, and joint task groups for weapons developed by the service concerned.

(Ref. 108, Army - SWPPR 940.1, 12 Oct 53, "Delineation of Responsibilities", Navy - SWPPR 940.1, 12 Aug 53, same subject; and Air Force - SWPPR 322, 27 Oct 53, same subject.)

The Navy and Air Force replies had not been received when the year ended. The Army reply, dated 22 December 1953, contained the following list of tentative responsibilities:

Weapons	Storage	Training	JTG
XW-7/CORPORAL			
Warhead	AFSWP (1)	AFSWP (1)	AFSWP (1)
Adaption Kit	Initial: AFSWP Final: Army	AFSWP (1)	AFSWP (1)
XW-7/HONEST JOHN			
Warhead	AFSWP (1)	AFSWP (1)	AFSWP (1)
Adaption Kit	Initial: AFSWP Final: Army	AFSWP (1)	AFSWP (1)
TX-19			
Nuclear	AFSWP (1)	AFSWP (1)	AFSWP (1)
Non-nuclear	Army (2)	AFSWP (2)	(3)
Atomic Demolition Munitions, Project B			
Warhead	AFSWP (1)	AFSWP (1)	(3)
Adaption Kit	Initial: AFSWP (1) Final: Army	AFSWP (1)	
XW-7/NIKE B			
Warhead	AFSWP (1)	AFSWP (1)	(3)
Adaption Kit	Army	AFSWP (2)	

(Weapons)	(Storage)	(Training)	(JTG)
XW-13/REDSTONE			
Warhead	AFSWP (1)	AFSWP (1)	(3)
Adaption Kit	Army	AFSWP (2)	

Notes: (1) Confirmed
(2) Tentative only
(3) A committee was being proposed by Army to determine who would undertake the JTG

3-5-24. Stockpiling Warheads and Adaption Kits.

On 26 February 1953, a memorandum was received from the Chiefs of the three services in which the Chief, AFSWP, was directed to establish, in coordination with the services and the Atomic Energy Commission, stockpiling arrangements for bombs, missile warheads, and adaption kits; and to establish a conversion capability of bomb to missile warhead consistent with the following:

a. . . . Stockpiling of weapons should be in conformance with the Maximum Bomb Availability Plan.

b. Adaption kit components should be stored in the location which, in the opinion of the service concerned, was preferable from logistical and operational viewpoints.

c. Capability of bomb to missile warhead conversion and missile warhead to bomb conversion . . . should be progressively extended throughout selected National and Zone of Interior Operational Sites.

(Ref. 109, memo, Chiefs of three services to Chief, AFSWP, file TS SWP 53-390, 26 Feb 53, "Bomb - Missile Warhead Interchangeability Studies; Stockpiling Warheads and Adaption Kits for Missiles".)

Field Command was informed of the provisions of this directive by TWX message on 6 March 1953. Then, on 6 April 1953, letters were sent to the three services, requesting the following information:

(1) Whether the services desired separation, with respect to adaption kits procured by the Atomic Energy Commission.

(2) If separation was desired, the location at which adaption kits would be stored when separation became feasible.

(3) The extent to which conversion capability would be extended to the deployed units and operational storage sites.

(Ref. 110, letters from Chief, AFSWP, to Chiefs of three services, SWP 53-604, 605, 606, 6 April 53.)

The replies from the services were as follows:

(a) The Army desired separation when feasible; the adaption kits for CORPORAL and HONEST JOHN would be stored at Site Baker until separation, then at Pueblo, Colorado; conversion capability would be extended to Ordnance Special Weapons Depot Battalions. (Ref. 111, 53-862/SWP, 28 May 53.)

(b) The Navy desired separation when feasible; the adaption kits for REGULUS would be stored at Site Able until separation, then at Navy Special Weapons Supply Annex, San Diego, California; conversion capability would be extended to carrier assembly teams. (Ref. 111, 53-794/SWP, 8 May 53.)

(c) The Air Force desired separation eventually; reference was made to the Air Force letter of 24 April 1953 (Ref. 111, 954.1, Central Files), which provided for storage of adaption kits in national stockpile sites and operational storage sites; the decision regarding the extension of conversion capability was pending. (Ref. 111, 53-605-1/SWP, 5 May 53.)

Copies of these three letters were sent to Field Command

on 30 June 1953 (Ref. ///, 53-982/SWP). On 20 April 1953, the Director of Military Application, AEC, was informed of the directive of 26 February 1953 from the Chiefs of the three services, and was informed that Field Command, AFSWP, had been directed to make the necessary detailed arrangements with the Santa Fe Operations Office. (Ref. //2, letter to DMA, 53-390-1/SWP, 20 April 53.) It was also indicated in this letter that Field Command had obtained an agreement with Sandia Corporation to package separately the warheads and the adaption kits for warhead installations developed by the Atomic Energy Commission.

Negotiations with the services continued, to pin down the detailed arrangements for stockpiling adaption kits, particularly as to when the services would assume responsibility.

A staff evaluation report, with the subject "Atomic Bomb - Missile Warhead Conversion Concepts", was prepared by Field Command, dated 21 September 1953. It was concluded in this report that the Maximum Bomb Availability Plan was expensive, because of the cost of components, the storage space requirements, and the effect on assembly capability; it was also concluded that, in the future, bombs and warheads should be stockpiled complete, in order to provide the maximum bomb and warhead availability. This report was incorporated in a study of the over-all problem of production analysis and control, prepared by the Operations and Training Division and presented to the Chief, AFSWP, about 1 December 1953. No further action was taken during the year 1953.

The Military Liaison Committee, in a memorandum dated

18 December 1953, outlined the delineation of responsibilities for MATADOR, REGULUS, CORPORAL, and HONEST JOHN adaption kits, and the bomb-to-warhead and warhead-to-bomb conversion components. Also, it was pointed out in this memorandum that the Department of Defense would assume responsibility for procurement of all adaption kits, starting 1 July 1954. (Ref. 113, MLC 30.9, 18 Dec 53.)

Letters were written to the three services in an effort to confirm the wishes of the services regarding the storage of adaption kits. (Ref. 108, Army, SWPPR 940.1, 12 Oct 53; Navy, SWPPR 940.1, 12 Aug 53; and Air Force, SWPPR 322, 27 Oct 53.) At the end of the year, only the reply from the Army had been received, indicating their desire to store their own adaption kits (see par. 3-5-23 above.)

A Presidential decision regarding production, manufacture, acquisition, and custody of weapons by the services was announced (under AFSWP coupon #7758). This decision appeared to give the services, the right to store weapons developed by the services, based on agreement between the Atomic Energy Commission and the Department of Defense. This would also apply to those weapon components for CORPORAL, HONEST JOHN, REGULUS, and MATADOR, produced by the Atomic Energy Commission, for which the services assumed procurement responsibility on 1 July 1954.

Current policy on procurement of radars for adaption kits was described in a memorandum from the Atomic Energy Commission, dated 30 December 1953. (Ref. 114, AEC memo, MAPR:CM, 30 Dec 53,

"Allocation of Mk-1 and Mk-3 Radars".) Subparagraph d of this memorandum stated:

"Until further notice, radars will not be scheduled with adaption kits, inasmuch as radars allocated for bombs will be available upon issue of the warhead. There will be an exception to this, however, when the present Mk-5 bombs which require radars are modified to the TX-5-X1 version which do not require radars. At this time additional radars will be allocated for Mk-5 warheads which may be used in missile application."

3-5-25. Atomic Demolition Munition.

Representatives of the Army and of AFSWP, in conference at Fort Monroe, Virginia, on 6 and 7 January 1953, developed a training plan for capability in atomic demolition munitions (ADM). This plan, which was forwarded to Headquarters, AFSWP (as an inclosure with S-RD letter, AG, D/A, file ATTNG-53, 000.9 (d), 30 Jan 53, Ref. 115), provided for a capability in atomic demolition munitions for the major theaters of operation, and for the general reserve in Projects B and C. It provided for orderly transition from Project A to Projects B and C, for initial unit training at Field Command, AFSWP, for cadre training either at Field Command or on site by an instruction team from Field Command, and for initial individual training in the special weapons course at the Command and General Staff College, and at a special course at the Engineers School, Fort Belvoir, Virginia. The Command and General Staff College would instruct in atomic weapons effects only.

G-3, of the Department of the Army, stated, by Secret-RD letter dated 4 February 1953 (Ref. 116), that the Army desired to achieve an early capability in Project A/ADM by commencing a special course at Fort Belvoir on or about 22 June 1953, and requested the AFSWP to assist

by shipping the necessary equipment to Fort Belvoir and by orienting the instructors who were to conduct the course. Headquarters, AFSWP, and the Department of the Army authorized direct communication between Field Command and the Engineers School to assure timely action.

After determining Field Command's progress, Headquarters, AFSWP, advised G-3, Department of the Army, by Secret-RD letter dated 20 March 1953 (Ref.116), that the AFSWP would provide orientation training and equipment for an early capability in Project A/ADM, within the time limits, and recommended that the Department of the Army commence a special course at Fort Belvoir on or about 22 June 1953, to establish this capability. Arrangements proceeded on schedule, and the first class commenced the course on 22 June.

Meanwhile, the AFSWP provided items such as drawings, specifications, and material which included the Mark 5,6, and 7 sphere assemblies, previously unprogrammed, to Piccatinny Arsenal. These items had been requested by the Department of the Army for development of Project B/ADM (by Secret-RD letter from G-4, D/A, file GA/Ph-12916, 10 March 53, Ref.116).

For the equipment requirements program for July 1953, the Army stated requirements for ten operational-suitability-test (OST) weapons of each type for Project B, in the third quarter of Fiscal Year 1954. This statement was interpreted by the AFSWP to mean ten Mk-6 bombs, ten Mk-7 warheads, and ten Mk-12 warheads. As the Army was studying both the Mk-7 and the Mk-12, with a view to retaining only one in the program, it was important to prevent excessive cancellation charges.

In an effort to determine which of these two weapons would be used, what ratio of inert to H.E. spheres was required, what components the AFSWP would have to order to provide training for Army units, and the status of the project, a conference was called at Headquarters, AFSWP, on 30 September 1953.

The following planning factors were developed at the conference:

(1) Mk-6 ADM.

(a) The first prototype of the Ordnance-developed equipment would be available by 1 November 1953.

(b) Ten operational-suitability-test (OST) units were required. The first unit would be available on 1 January 1954; nine additional units would be available during the period January to March 1954.

(c) The stockpile entry date, with storage at either national stockpile sites or ordnance depots, would be [redacted]

(2) The decision on the Mk-7 or the Mk-12 might be expected by 1 December 1953.

(3) There would be no Joint Task Group as such. Ordnance would conduct an engineer user test on the Mk-6, starting in January 1954. Information for the tests, and information developed as a result of these tests, would be exchanged between Ordnance National Maintenance Point, Rock Island Arsenal, and Field Command.

(4) The AFSWP would supply ten bombs of each type (probably in package condition) to support the operational suitability

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test to be conducted at Fort Bliss.

(5) G-3 estimated that the site capability rate for all types of Project B ADM's should be six per day per site for three sites. This was later corrected to five per day per site.

(6) The AFSWP was to prepare, publish, and distribute special weapons equipment lists (SWEL's) for AFSWP units; and the Department of the Army would do the same for Army units.

(7) The Ordnance National Maintenance Point would publish all procedures.

(8) Training.

(a) One national stockpile site was to be trained by 1 January 1954.

(b) Ordnance would provide instructor training for the AFSWP during the third quarter of Fiscal Year 1954.

(c) The AFSWP would require two sets of prototype training equipment.

(d) One Ordnance unit to support the operational suitability test would be trained by the Army. The AFSWP would conduct individual cadre training for units subsequent to the other CST support unit. Before [redacted] unit training would be an Army responsibility; after [redacted] the AFSWP would conduct unit training.

The Ordnance liaison officer at Field Command, who was very much concerned about the progress of the development program, called another meeting, at Headquarters, AFSWP, on 28 October 1953; as a result of this meeting a memorandum was prepared for the

[redacted]

Chief of Staff, AFSWP, in which the question was raised of the necessity for a Mk-6 Project B ADM, and it was suggested that XW-7/BETTY might well be used in place of the Mk-7 Project B ADM. (Ref.117, memo to C/S, AFSWP, SWPDV-3-924.4, 29 Oct 53.)

An informal conference was held at Headquarters, AFSWP, on 22 December 1953, to examine the Mk-6 Project B ADM in the light of the development of the TX-13, and to examine a G-3 Disposition Form to G-4, dated 12 November 1953. (Ref.117, G-3 DF to G-4, D/A, G-3 471.6, 12 Nov 53, "Compatibility of TX-13 with Project B, Atomic Demolition Munitions".) As a result of this conference, the Army representatives indicated that they might withdraw the requirement for a Mk-6 Project B ADM, and substitute the TX-13. It was also apparent that the Army would restudy the Project A requirements and that a new statement of Project A training and equipment requirements might be forthcoming.

3-5-26. Method C for Providing Equipment for Navy Special Weapons Organizations.

Headquarters, AFSWP, on 27 February 1953, presented to the Chief of Naval Operations three methods (Methods A, B, and C) of providing Navy organizations with special weapons equipment, and proposed that Method C be adopted. (Ref.118, Secret-RD letter, Chief, AFSWP, to CNO, file SWPPR 322 x 913, 27 Feb 53, "Special Weapons Equipment for Naval Special Weapons Organizations".) The current method at that time was to authorize allowances and issue special weapons equipment on a "per team" basis. Method C provided this

[redacted]

[redacted]

[redacted]

equipment on a "per ship and per facility" basis. Specifically, Method C would eliminate special weapons equipment lists (SWEL's) for carrier assembly teams and provide SWEL's for ship-board operations as a part of a ship's allowance; and it would establish SWEL's for Special Weapons Unit, Atlantic Fleet (SWULANT) and Special Weapons Unit, Pacific Fleet (SWUPAC) which would include sufficient equipment for training ashore, for emergency capability of unconverted carriers, for salvage and disposal missions, and for support operations by deployed assembly teams at forward bases.

Headquarters, AFSWP, recommended Method C because it placed control and accountability of special weapons equipment at the command level and reduced moving problems when carrier divisions were to be transferred between ship and shore. No change was recommended for equipping Marine Tactical Divisions, as they were to remain under the operational control of the AFSWP for the foreseeable future.

The Chief of Naval Operations concurred in the recommendation that Method C should be implemented, and indicated that equipment involved be allocated to Commander, Air Force, U. S. Atlantic Fleet, and Commander, Air Force, U. S. Pacific Fleet, and be issued and controlled through the Special Weapons Supply Depot, [redacted] Virginia, and the Special Weapons Supply Annex, [redacted] California, respectively. The Chief of Naval Operations suggested that Field Command establish appropriate special weapons equipment lists through direct communication with the cognizant Fleet Air Force Commanders and that when details had been arranged the program should be submitted to the Chief of Naval Operations for final

[redacted]

approval. (Ref.//8, Secret-RD letter, CNO to Hq, AFSWP, file OP-363/Kg, Serial 00124 P36, 16 March 53.)

Headquarters, AFSWP, on 24 March 1953, requested Field Command to prepare a program for implementing Method C as outlined above. Field Command submitted plans for Method C to the Fleet Air Force Commanders by letter dated 28 April 1953; they submitted also a detailed coordinated program for implementing Method C, which was forwarded by Headquarters, AFSWP, to the Chief of Naval Operations for approval. The Chief of Naval Operations approved this plan on 8 June 1953, and Headquarters, AFSWP, on 24 June 1953, requested Field Command to recommend a date, not later than 31 October 1953, for implementing Method C.

(Ref.//8, letter, Secret-RD, Hq, AFSWP, to FC, SWPPR 322 x 913, 24 March 53; letter, FC to Air Force Commanders, FCPD 400, 28 April 53; letter, Secret-RD, Hq, AFSWP, to CNO, SWPPR 322, 27 May 53; letter, Secret-RD, CNO, file OP 363/Kg, serial 00257 P36, 8 June 53; letter, Secret-RD, Hq, AFSWP, to FC, SWPPR 322, 24 June 53.)

Further information about the institution of "Method C" for providing equipment for Navy special weapons organizations may be found in paragraph 3-5-14 above, headed "Deployment of Naval Special Weapons Units".

3-5-27. Increased Site Capacity.

In February 1953, the Chief of Staff, AFSWP, directed the Plans Division to prepare a staff study of the problem of matching up the assembly capability of the AFSWP with the anticipated operational requirements of the services from the long-range point of view. A draft of this study was prepared, but it was held up pending the completion of a closely related study, by the Operations

and Training Division, of the unilateral operational requirements of the services. No further action on this matter was taken during the year 1953.

3-5-28. Use and Requirements for Training Weapons Within AFSWP.

On 8 January 1953, Headquarters, AFSWP requested Field Command to implement the recommendations of a staff study of "The Use and Requirements for Training Weapons Within AFSWP". This staff study had been completed by Lt. Colonel R. L. ~~Brown~~ Bowen, USAF, and Lt. P. H. McAfee, USN, of the Operations and Training Division, Headquarters, AFSWP, on 2 December 1952, and had been approved by the Chief of AFSWP.

The services were informed by Headquarters, AFSWP, of the results of this study, by letter, on 15 January 1953; and they were told of the improved training and economies which were expected to ensue.

It was noted in this study that training at national stockpile sites (NSS's) involved three separate phases, and that training weapons were required in different quantities for each phase, as follows:

a. The first phase was individual and unit training on new types of weapons, to provide organizational capability before an operational commitment. Four implosion weapons of each type and one of each gun-type weapon were required at each site for this purpose. These were training weapons provided by the AFSWP. It was considered that this phase required from one to two months of time.

b. The second phase was the continuing cross-training of site personnel. One training weapon of each type was required at each site to accomplish this training.

c. The third phase was production-type assembly train-

ing. All site personnel agreed that this training required a minimum of eighteen weapons of War Reserve quality at intervals of 60 days, in a continuous assembly exercise, and that a requirement for completion of this exercise each month was excessive. War Reserve weapons were provided by the Atomic Energy Commission.

It was also shown in this study that site activities such as surveillance, modernization, and technical proficiency inspections afforded excellent training. Maneuvers which included aircraft loading were particularly effective. Pre-shipment inspections of ready weapons and operational-suitability-test (OST) weapons provided additional training. The use of training weapons at sites had varied greatly with the introduction of new types of weapons, the status of organization training, the use of the maneuver pool, and the surveillance work-load.

The study indicated that modernization and maintenance of training weapons generally lagged considerably behind modernization and maintenance of War Reserve weapons, thus reducing the effectiveness of the training weapons. All AFSWP activities desired to maintain training weapons in the same status as the most modern stockpile weapons; they would generally have been capable of accomplishing this, but for the fact that serious shortages of certain spare parts and modification kits for training weapons hampered the program.

The following conclusions were presented in the study:

(1) Full effective use of training weapons had not been practicable because of failure to provide modification kits and

spare parts necessary to modify and maintain these weapons in the most modern stockpile modification alteration (Mod) and (Alt) status.

(2) After completion of initial organization training on a new weapon, each national stockpile site required only one training weapon of each type.

(3) The technical work-load at national stockpile sites provided sufficient training to allow reduction of the requirement for a monthly 18-unit continuous assembly operation.

(4) The "Universal Delivery Trainer", which the Navy Special Devices Center would commence producing early in 1953, should be used by all establishments, where practicable, in lieu of fuze components.

The AFSWP initiated the following action as a result of this study:

(a) The authorized allowance of training weapons for each national stockpile site was reduced to one of each assigned type.

(b) Field Command, AFSWP, was requested to provide and control a pool of four of each weapon of the implosion type on which national stockpile sites had not received their initial training. This pool would be rotated between national stockpile sites for initial unit training. The four weapons of each type would be transferred from this pool and used to fill other programmed requirements when all national stockpile sites had completed the initial phase of training.

(c) The allowance of training weapons assigned to Unit Training Group was adjusted to effect a reduction of 19 training weapons. This was the result of a revaluation of the projected training load.

(d) Training weapons which became available upon initiation of the above policies were transferred into current weapons programs.

(e) The need for and availability of modification and spare parts for training weapons were reviewed and action was taken to expedite the procurement of these items.

(f) Training programs for national stockpile sites were planned to include modification and maintenance of training weapons in the same status as the most modern stockpiled weapons.

(g) Special Weapons Bulletin 34-6, subject: "Training Standards for AFSWP Site Organizations", dated 18 July 1951, Section III, par. 1, was revised to require a continuous assembly exercise of at least 18 weapons during each 60 day period instead of each month.

The results of this staff study reduced the total requirements of national stockpile sites for training weapons as follows: for Mark 8, from 8 to 4; for Mark 9, from 6 to 3; and for each of five weapons of the implosion type in stockpile, from 16 each to 8 each during the initial training phase, and further to 4 each when the first phase of training was completed. The reductions in current weapons programs for national stockpile sites were 67 training weapons, and the total reductions, including those at Special Weapons Training

Group, were 86 training weapons. These reductions represented a large initial saving which would continue into future weapons programs. The requirements for critical modifications kits and spare parts for training weapons were reduced in proportion.

3-5-29. Special Weapons Facility at Naval Ammunition Depot, Oahu, T. H.

The Chief of the Bureau of Ordnance, USN, requested, on 23 January 1953, that the AFSWP make recommendations relative to the organization, billet structure and training requirements for a special weapons facility at the Naval Ammunition Depot, Oahu, Territory of Hawaii. (Ref. 119, letter, TS-RD, Chief, BuOrd, to Hq, AFSWP, file Es3-3-WEB:et, Serial 0005, 23 Jan 53, "U. S. Naval Ammunition Depot, Oahu, T. H., Special Weapons Storage and Surveillance Facilities, Personnel and Training Requirements for".)

After conferences at Headquarters, AFSWP, the Bureau of Ordnance appointed a survey group, which included representatives of the Bureau of Ordnance, Field Command, and Black and Veach Engineering Company. Lt. Commander William E. Betzer, USN, of the Bureau of Ordnance, was appointed chairman of the survey group, with the assignment of planning the proposed new facility.

After inspecting facilities during February 1953, and consulting with members of the staffs of the Commander-in-Chief, Pacific Fleet, the Commander, Air Force, Pacific Fleet, the Naval Ammunition Depot (NAD), Oahu, and the 14th Naval District, the survey group recommended [redacted]

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The report of the survey proposed modification of existing facilities and additional construction. It contained the recommendations that the Commanding Officer, Naval Ammunition Depot, Oahu, have military and administrative control of the technical and security personnel for the special weapons, to be provided by the Department of the Navy, and that the technical personnel be trained at Field Command, AFSWP, and report to Naval Ammunition Depot, Oahu, in sufficient time to assure capability by 1 July 1954. It was recommended, also, that the AFSWP conduct cadre, refresher, and replacement training, and be responsible for technical proficiency inspections, in accordance with the Navy-AFSWP policy agreement. Subsequently, the AFSWP formulated special weapons equipment lists (SWEL 40-5), recommended requirements for mobile equipment, and for the billet structure and plant of the proposed facility. Training schedules were planned, and special weapons equipment was programmed for Naval Ammunition Depot, Oahu, in the 1 January and 1 July 1953 equipment requirements programs (ERP's).

The plans for the establishment of the new special weapons facility at Oahu having been completed, further action, in connection with manning, training, and providing special weapons equipment, became matters of concern to other divisions of Headquarters, AFSWP, rather than the Plans Division.

3-5-30. Navy-AFSWP Memorandum of Understanding.

Early in April 1953, Field Command submitted a proposed Navy-AFSWP Memorandum of Understanding, which incorporated into one document a number of agreements and letters, and other correspondence,

which pertained to the Navy and to the AFSWP and were currently in effect. After coordination, the proposal was forwarded to the Navy on 15 April 1953. Thereafter, this subject became a concern of the Logistics Division.

3-5-31. Army - AFSWP Memorandum of Understanding.

Late in April 1953, Field Command forwarded a proposed Army - AFSWP Memorandum of Understanding, similar to Navy - AFSWP Memorandum. Coordination revealed many errors, and the proposal was returned to Field Command on 20 May 1953. Thereafter, this subject also became a concern of the Logistics Division.

3-5-32. Joint Task Group for W-5/B-61 (MATADOR).

On 2 February 1953, the Director of Training, USAF, requested the AFSWP to develop a plan to train 20 pipeline personnel, by 1 November 1953, in assembly of the W-5/B-61 (MATADOR) to provide early capability. The AFSWP indicated that ten pipeline personnel would be trained within the Joint Task Group (JTG) for the W-5/B-61 and ten others would be trained in the first class on W-5/B-61 in January, 1954. The Air Force gave informal approval of this plan. On 20 April 1953, Headquarters, AFSWP, sent a TWX message (03236) to Field Command, quoting a message from Headquarters, USAF, to the Commanding General, Tactical Air Command, in which it was indicated that the AFSWP would be asked to invite representatives of Air Research and Development Command and of Tactical Air Command to participate in the functions of the Joint Task Group for the W-5/B-61; Field Command was informed that this requirement was in addition to the ten pipeline personnel.

On 4 May 1953, Headquarters, AFSWP, sent another TWX message (03574) to Field Command, quoting a message from Air Materiel Command to Headquarters, USAF, in which it was indicated that it was desired that the Joint Task Group for W-5/B-61 be instructed to invite personnel of the San Antonio Air Material Area (SAAMA) and the Warner Robins Air Material Area (WRAMA) to the joint task group for the purpose of writing operational handbooks and compiling equipment lists. Field Command was requested to determine the specific mission of these personnel, and whether that mission could be accomplished during operations of the Joint Task Group for W-5/B-61; and the recommendations of Field Command regarding the proposal of Air Materiel Command were also requested.

Field Command replied on 13 May 1953 (Ref. 120, file 954.1) that the joint task group could accommodate only fifteen persons, and that personnel of the San Antonio and the Warner Robins Air Material Areas could be oriented by Sandia Corporation and Field Command, if they desired information concerning the preparation of manuals and special weapons equipment lists. Field Command stated further that special weapons equipment lists were prepared by Sandia Corporation and evaluated by the joint task group, and that, if desired, a copy of the proceedings of the joint task group could be made available to the Warner Robins Air Material Area. It was recommended in this letter that the requirement for training ten pipeline personnel be deleted, and that personnel from operational storage sites, aviation field depot squadrons, or Special Weapons Unit Training Group be used in the joint task group.

The letter of 13 May 1953 from Field Command was amended by a TWX message dated 12 June 1953 (Ref. 120, FCPD 6-5-5126, file 954.1) recommending another composition of the Joint Task Group for W-5/B-61. A letter was sent to the Air Force on 2 July 1953 (Ref. 120, file 954.1), recommending that the Joint Task Group for the W-5/B-61 be set up in accordance with the following provisions:

a. That Air Research and Development Command (Special Weapons Command) send a minimum number of official observers.

b. That Air Force Missile Test Center send one officer and one airman as participants.

c. That the 3d Tactical Support Squadron provide two officers and three airmen.

d. That the AFSWP supply the remainder from units in Special Weapons Unit Training Group and AFSWP units.

e. That the San Antonio Air Material Area obtain orientation from Sandia Corporation on the preparation of manuals.

f. That the Warner Robins Air Material Area obtain orientation on the preparation of special weapons equipment lists at Field Command.

g. That the Tactical Air Command send a minimum number of observers.

The activities described above were significant in revealing the increasing interest of the services in matters which had previously concerned only the AFSWP; they made it clear that the goal of Headquarters, USAF, was to become self-sufficient in atomic weapons.

Further interest of the Air Force in the conduct of joint task groups was indicated in a letter from the Director of Research and Development, Office of the Chief of Staff, Development, to Headquarters, AFSWP, dated 26 August 1953 (Ref. 120, letter, Secret-RD, file AFDRD, "(U) JTG Functions"). It was stated in this letter that it was appropriate that the functions of joint task groups for USAF Pilotless Aircraft subsequent to the B-61 be performed in a manner consistent with the division of responsibility for development and procurement of component parts of the warhead and the missile, but not necessarily according to the same division of responsibilities previously established between the Air Force and the AFSWP for the Mark 5/B-61. This principle would apply to weapons for which the Air Force had complete or partial responsibility for development or procurement. It was desired, therefore, that the AFSWP accomplish the following specific functions for joint task groups for future categories of weapons:

a. Establish test and assembly procedures for the warhead and for the bomb to warhead conversion.

b. Establish equipment lists prescribing minimun essential quantities of equipment for warhead assembly and test.

c. Recommend spare parts lists and stock levels for warhead assembly and test operations.

d. Prepare inspection and maintenance procedures for storage of warheads.

e. Determine personnel requirements and assembly rates

for warhead assembly and bomb-to-warhead conversion.

f. Compose the warhead portion of stockpile-to-target sequence and forward it to the Research and Development Command.

The Air Force anticipated that there would exist areas of mutual interest, and it was suggested that the specific assignment of tasks in such areas be a matter for resolution by the working parties concerned. The Air Research and Development Command was designated as the responsible agency of the Air Force in this field.

3-5-33. "Special Text, National Policy and Organization".

The Army War College requested the AFSWP, by letter dated 15 May 1953, to review the paragraph dealing with the AFSWP in their document, "Special Text, National Policy and Organization". A brief description of the AFSWP was given in this paragraph. Review of the paragraph revealed several errors, and the paragraph was revised and forwarded to the Army War College on 25 May 1953. The revisions included a correction of a statement that the Deputy Chiefs of AFSWP were normally members of the Military Liaison Committee, and clarification of the functions of the Manhattan Engineer District which were assumed by the AFSWP. (Ref. 121, .008 file.)

3-5-34. Mark 4 Weapons for Historical Display.

Field Command, on 28 May 1953, requested information concerning the requirements of the services for Mark 4 weapons for historical display (by telenote ~~for~~ from Commander James, USN, to Major P. A. Morton, USA), Field Command was notified that the requirements were as follows: Army - 1, Fort Sill; Navy - 3; Air Force - 3 (Ref. 122, TWX, 941.4 file). Field Command was notified later that the

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Navy wished one of their three weapons to go to the Naval Special Weapons Supply Annex, [redacted] California, and the other two to the Naval Special Weapons Supply Depot, [redacted] Virginia. The Air Force locations were not determined before this matter was transferred to the Logistics Division.

3-5-35. Agreement by AEC and AFSWP on Transfer of AEC - Furnished Material.

Field Command forwarded to Headquarters, AFSWP, several copies of a document entitled: "Agreement by AEC - AFSWP on the Transfer of AEC - Furnished Material". This document, signed by Mr. C. L. Tyler, Manager, Santa Fe Operations Office, Atomic Energy Commission, and Brig. General L. S. Stranathan, USAF, Commanding General, Field Command, AFSWP, on 20 March 1953, superseded an agreement on a similar subject which had been signed by Mr. Tyler for the AEC and by Brig. General R. M. Montague, USA, for the AFSWP, in February 1949. Copies of the new agreement were forwarded to the services on 4 June 1953.

3-5-36. Thermonuclear Program.

On 28 January 1953, Headquarters, AFSWP, forwarded a letter to the Air Force asking for information about the responsibilities of the AFSWP in the TX-14 Program. (Ref. 23, letter to AFOAT, file 941.14 TS, TS Control Symbol 53-204/SWP, 28 Jan 53, "AFSWP Responsibilities in the TX-14 Program".) Three questions were posed to the Air Force in this letter as follows:

a. The extent to which the Air Force desired participation by the AFSWP in the TX-14 program.

[redacted]

b. The designation of Air Force special weapons units which would participate in the TX-14 program.

c. The desired training schedule for these units. ¶ The Air Force was informed that the progress of the emergency thermonuclear program had advanced to the point where it was time to consider training, storage, surveillance, and loading matters. The Air Force was informed also that the Commanding General, Field Command, would follow the normal procedure for activities of joint task groups and would coordinate with Special Weapons Command on stockpile-to-target sequence.

Field Command sent a letter to Headquarters, AFSWP, dated 27 February 1953 (Ref. 23, 53-219/SWP) in which Field Command indicated that it was understood that the participation of the AFSWP in the TX-14 program would be limited to storage of certain critical components at national stockpile sites; and, further, that surveillance, handling, training, etc., would be responsibilities of the Atomic Energy Commission and the Air Force. It was indicated in this letter that "A" structures might be used to store the [redacted] but that currently the doors were too narrow to permit entrance. For that reason, it was recommended that igloos be modified to store [redacted] at a cost of $30,000 to $40,000 each. If it was found necessary to store [redacted] in "A" structures, such structures as were to be completed under the CLD SQUAW program should be designed for the storage of the [redacted] An indorsement to this letter dated 16 March 1953 (Ref. 23, 53-219.1/SWP) was forwarded to Field Command, instructing the Commanding General to prepare plans for training to create a capability for surveillance, assembly, loading, etc., in the emergency thermonuclear program, and

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to conduct a survey and prepare engineering plans for modifying igloos for the storage of [redacted] By this indorsement, Field Command was informed that the Air Force was still preparing plans for development, storage, assembly, training, and loading phases of the emergency program. The decision of the Air Force would make the participation of the AFSWP in the program clear.

A Sandia Corporation Progress Report dated 1 February 1953 indicated that teams of the Atomic Energy Commission would be responsible for assembly and surveillance during the emergency capability program (Ref. 23, 53-443/SWP). Based on this report, Field Command sent a TWX message on 27 February 1953, in which it was indicated that no additional handling equipment would be required by the AFSWP in the emergency capability program, as it appeared that the AFSWP would not participate.

On 11 June 1953, the Air Force answered the letter of 29 January 1953 from Headquarters, AFSWP (Ref. 23, letter, 53-903/SWP, 11 June 53, "AFSWP Responsibilities in the TX-14 Program"). (This letter was substituted for a previous reply which was withdrawn.) The Air Force indicated that it had no requirements for training by the AFSWP in the emergency thermonuclear programs, and that the Air Force special weapons units to participate were currently being designated; the AFSWP would be notified of the designation of these units. In addition, the Air Force indicated that the Atomic Energy Commission and the Air Force, with participation by the AFSWP, would continue to collaborate in the development of stockpile plans; that, as an interim procedure, certain critical components would probably

[redacted]

be stored at Site Able and therefore personnel of Site Able might be required to handle these components; that the Air Force, with the assistance of the AFSWP, would conduct the functions of joint task groups; and that the AFSWP could communicate directly with major commands of the Air Force involved in the emergency thermonuclear program. A copy of this letter was forwarded to Field Command on 26 June 1953 (Ref. 123, 53-908 file).

On 22 October 1953, the Chief of Naval Operations stated ~~that~~ the requirements of the Navy for assembly and delivery of the TX-15 [redacted] (Ref. 124, letter, Serial 155P36, 22 Oct 53). These requirements were stated in terms of capabilities to be achieved. As yet no requirements had been stated by the Air Force or the Army. Based upon the Navy requirements and the following assumptions, the training proposal of AFSWP was forwarded to the Navy (Ref. 124, letter, TS 1931):

(1) The Navy could achieve a limited capability for assembly and delivery by 1 December 1954;

(2) Sandia Corporation would furnish the AFSWP a list of test and handling equipment for assembly and delivery of the weapon by 15 January 1954;

(3) Initial production would be by Sandia Corporation, and one training weapon would be available by 1 October 1954, with three additional weapons, and associated test and handling equipment, to be available by 31 December 1954;

(4) The complete design release (CDR) date would be September 1954;

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(5) The operations of the joint task group (JTG) would be completed by October 1954;

(6) The first TX-15 weapons would be delivered to the Atomic Energy Commission during December 1954;

(7) Stockpile entry would be in September 1955.

The Air Force continued to develop the early capability phase of the TX-14, TX-16 and TX-17. A meeting was held at Sandia Corporation to determine the dates and the time scales for training by the Department of Defense of Air Force personnel to perform post-load and pre-flight testing of emergency capability weapons. At the end of the year 1953, Sandia Corporation, in conjunction with Special Weapons Command, was taking steps to develop a military capability for post-load and pre-flight checks of emergency capability weapons by February 1954. (Details may be found in Field Command Weekly Activities Summary, dated 23 December 1953, Ref. 125.)

The AFSWP began alterations, at the cost of $10,000, of Building 635, Technical Training Group, Field Command, for training on the TX-14, TX-16, and TX-17. One training weapon of each type and the necessary assembly equipment were programmed in the AFSWP portion of the equipment requirements program (ERP) of 1 January 1954. This program would maintain technical competence of AFSWP personnel and would ensure the capability of AFSWP to provide training for the services, if requested.

San Antonio Air Materiel Command, by letter dated 3 December 1953 (Ref. 126, coupon 7658), forwarded to Field Command,

[redacted] SECRET

AFSWP, a military interdepartmental procurement request (MIPR) initiating procurement of test and handling equipment for TX-14, TX-16, and TX-17.

3-5-37. Establishment of Site Jig.

The Bureau of Ordnance, USN, reported in April 1953 that the status of construction and training of Navy personnel indicated that Site Jig would be a usable facility by 1 July 1953. (Ref. 127, TWX, DTG 281750Z.)

Representatives of the Bureau of Ordnance, [redacted] Naval District, the Navy Mine Depot, and Field Command, AFSWP, inspected the facilities during mid-June, and agreed that Site Jig would be ready for occupancy on 1 July 1953 and would be ready for receiving special weapons on 15 July 1953. All operating personnel of the Navy and most of the operating personnel of the Atomic Energy Commission were on hand for this inspection.

On 1 July 1953, the Officer-in-Charge read his orders to the assembled troops and formally established Site Jig [redacted]

3-5-38. "Armaments and American Policy".

A meeting was held in the office of the Chief, AFSWP, on 22 June 1953, for the purpose of discussing a proposed speech by the President on "Armaments and American Policy". Lt. Colonel E. F. Black, USA, of the Office of the Secretary of Defense, gave a presentation to General Luedecke and officers of his staff on the background of this subject. The following were present: from the AFSWP: Brig. General A. R. Luedecke, USAF; Colonel H. C. Donnelly, USAF; Colonel William B. Kieffer, USAF: Colonel Theron Coulter, USAF: Captain Bert F. Brown,

[redacted] SECRET

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USN; Colonel David M. Perkins, USA; Lt. Colonel W. A. Stevens, USA; Lt. Commander Stanley T. Robinson, USN; Lt. Commander R. B. L. Creecy, USN; and, from the Office of the Secretary of Defense: Lt. Colonel E. F. Black, USA.

A digest of Colonel Black's presentation follows:

a. The subject under discussion stemmed from a long-time project initiated by the former Secretary of State, Mr. Dean Acheson, about two years ago, when the problem of determining proposals for the control of atomic energy for referral to the United Nations was given to a panel of consultants on disarmament policies. This panel was headed by Dr. Robert J. Oppenheimer, and consisted of five persons, including Dr. Vannevar Bush.

b. In January 1953, the Panel of Consultants submitted a report to the Secretary of State, which was referred to the National Security Council. This report contained five recommendations, centering, in general, around the desire for complete candor toward the American people, their allies, and the Soviet Union. In general, these recommendations were:

(1) Make the American people aware of the facts concerning atomic energy and atomic weapons. The President should deliver a major policy speech in which significant aspects of atomic energy would be discussed with the American people, consistent with the best interests of national security.

(2) Adopt a policy of increased candor toward the nation's own officials and especially toward its allies, with respect to atomic energy information.

(3) Adopt a rigorous program for continental defense against atomic attack.

(4) Disengage from discussion of atomic energy control at the United Nations.

(5) Communicate with the Soviet policy makers and the Soviet people to insure that they understand the government's atomic energy policy.

c. The Report of the Panel of Consultants to the Secretary of State was approved in principle by the National Security Council, which referred it to the General Planning Board of the National Security Council (this Board, formerly called the Senior Staff, was headed by

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General Robert Cutler). The General Planning Board appointed a new ad hoc committee (hereinafter called the Planning Board Committee) with instructions to submit recommendations for implementation of the five recommendations of the Panel of Consultants Report. (The Planning Board Committee consisted of representatives of the Department of State, the Department of Defense, the Central Intelligence Agency, and the Psychological Strategy Board.) Based upon the recommendation of the Planning Board Committee, the National Security Council proposed to the President that a speech be prepared in accordance with Recommendation 1 of the Panel of Consultants Report. (The Planning Board Committee's recommendation was contained in NSC 151, which indorses candor to the American people.)

d. The Psychological Strategy Board was directed to prepare the specific steps to be taken in the event the President approved the speech. (This Psychological Strategy Board operated under the National Security Council and had the mission of developing and coordinating all U. S. efforts in the psychological field. It consisted of: the Under Secretary of State, General W. Bedell Smith; the Deputy Secretary of Defense, Mr. Roger M. Kyes; the Director of the Central Intelligence Agency, Mr. Allen W. Dulles; and Mr. C. D. Jackson, Special Assistant to the President, Chairman. This was an inter-agency board which had a staff of about 60 people who worked under the direction of Mr. Jackson.)

e. Under NSC 151 (containing the recommendation referred to above), Mr. Jackson prepared a draft of a speech. He requested help of the Joint Chiefs of Staff in reviewing this speech, and asked for the appointment of an adviser from the Department of Defense in this matter. The Joint Chiefs of Staff thereupon appointed General Luedecke, Chief, AFSWP. (At this point General Luedecke pointed out that the Chief, AFSWP, could not be a JCS representative, but would provide the assistance requested.) Mr. Jackson subsequently held a meeting with representatives of the Department of State and the Department of Defense. The Department of State, not concurring with Mr. Jackson's draft, prepared a second draft of the President's speech.

f. With respect to Recommendation 2 of the Panel of Consultants Report, concerning the exchange of information with the allies, two questions were asked by the Planning Board Committee:

(1) What information did the nation want to give its allies?

(2) What blocks, legal or otherwise, prevented this action?

A discussion followed between General Luedecke and Colonel

Black concerning the position of the Department of Defense and the implementation of Recommendation 2. General Luedecke stated that whereas the Joint Chiefs of Staff had formerly taken a position in favor of exchanging information with the allies, it had currently withdrawn from this position. The withdrawal of the Joint Chiefs of Staff was prompted by their desire to take advantage of the restrictions imposed by Restricted Data when they wished to do so, in refusing to give information to the allied nations. General Luedecke pointed out that representatives of the Department of Defense would be unable to accomplish much in discussions with other agencies until the Joint Chiefs of Staff had re-stated their position and that one approach would be for the Secretary of Defense to send a letter to the Joint Chiefs of Staff asking for their position. General Luedecke stated that some of the objectives which would be gained by the implementation of Recommendation 2 would be, in essence:

(a) To prompt interest by the allies in developing an effective defense plan.

(b) To avoid undue timidity on the part of the allies.

(c) To prompt continued cooperation in the procurement of ore (Belgium).

(d) To prompt development by the countries of the free world.

On 16 June 1953, the Plans Division undertook the project of answering the question "What information did the nation want to give its allies?" (Subparagraph f (1) above). Further information on this subject will be found in the next paragraph (3-5-39),

under the heading : "Exchange of Information with Allies".

"Ref. 128; SWP/53-956; control nos. 4761 and 4762 of Central Files.)

3-5-39. Exchange of Information with Allies.

(See introduction to this subject, in preceding paragraph, 3-5-38.)

On 11 September 1953, a briefing was held for the Deputy Chief, AFSWP, Navy - Admiral Parker - on the subject of disclosure of atomic energy information to the allies. Instructions were received to continue on the basic study as a matter of second priority to the study of revisions to the Atomic Energy Act (see par. 3-5-20).

The Plans Division's study of exchange of information with the allies reviewed the various obstacles in the way of such action, primarily the Atomic Energy Act and the reluctance of the Joint Chiefs of Staff to give information to the allies when this would greatly increase the probability that it would reach the Soviet Union. Various categories of information were discussed, with emphasis on information on employment of weapons which was considered necessary to the allies of the ~~Nation~~ North Atlantic Treaty Organization (NATO) if they were to defend the NATO area successfully. It was considered that exchange of information should be given on a very limited basis by officially offering the British the latest non-restricted-data information on effects and employment. Again it was considered that continued effort should be made to remove strictly military information from the restricted data category.

The study of the Plans Division was submitted to the Deputy Chief, AFSWP, Navy, on 9 November 1953, and the instructions

were to hold it for possible future use. The action for the National Security Council in connection with this matter was completed when the Chief, AFSWP, submitted his comments informally. The report of the National Security Council (NSC 151/2, Ref.128) was received and reviewed by the Plans Division on 17 December 1953. The substance of this report was that the National Security Council and the President had approved a policy of greater disclosure, to selected allied governments, of information in the field of atomic energy. (The draft of the study and related papers were on file in the Plans Division.)

3-5-40. Department of Army Tables of Distribution, FY 53, 54, 55.

The Department of the Army requested that tables of distribution, to reflect projected personnel requirements for Fiscal Years 1953, 1954, and 1955, be submitted by 1 April 1953.

In summary, the following projected unit strengths were to be reflected in these tables of distribution:

	Off	FMO *	WO	EM	Total	Civ.
31 Oct 52	349	22	43	2039	2453	1779
FY 53	368	22	49	2089	2528	1910
FY 54	389	22	49	2151	2611	1912
FY 55	389	22	49	2151	2611	1923

* FMO: Female Medical Officers

(Ref.129, SWPPR-5-320.4, 30 July 52, "Presentation of Troop Basis, FY 53, 54, 55"; and SWPPR 320.4, 9 Jan 53, "Preparation and submission of T/D for FY 53, 54, 55".)

On 15 January 1953, interim and tentative tables of distribution were submitted to the Adjutant General, Department of the Army. Final Tables of distribution were submitted on 9 April 1953. (Ref.129, SWPPR 320.4, 15 Jan 53 and 9 April 53, "Preparation and submission of T/D for FY 53, 54, 55".)

3-5-41. Navy Special Weapons Units - Submarine Warhead Assembly Teams.

The Chief of Naval Operations issued a directive, on 13 April 1953, which covered the following items:

a. Deployment of the 471st and 802nd Naval Special Weapons Units to the Air Force of the Atlantic Fleet and of the Pacific Fleet, respectively.

b. Disestablishment of Naval Special Weapons Unit 1233.

c. Assignment of responsibility to provide trained replacements to the cognizant fleet commanders.

d. Retention of individual training responsibility in the Technical Training Group, Sandia Base (the Chief of Naval Operations to control quotas).

e. Establishment of responsibility for unit training of assembly teams with Fleet Commanders about July 1954.

The "E" and "O" Divisions of the Naval Special Weapons Units were Navy Guided Missile Warhead Teams. The present status of these submarine warhead assembly teams was reviewed in this directive, with the purpose of:

(1) Promulgation of a standard submarine warhead team designation.

(2) Revision of training plans for submarine warhead teams.

(3) Revision of deployment plans and scheduling.

To distinguish between Guided Missile Warhead Teams,

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Aircraft Carrier Assembly Teams, and Cruiser Warhead Assembly Teams, all submarine teams were designated as Submarine Warhead Assembly Teams (SWAT). To provide exact identification, individual SWAT's were designated as follows:

NSWU 471 Div E - SWAT 1
NSWU 802 Div E - SWAT 2
NSWU 1233 Div E - SWAT 3
NSWU 802 Div O - SWAT 4
NSWU 471 Div O - SWAT 5
NSWU 1233 Div O - SWAT 6

Although two SWAT's were provided for each Naval special weapons unit, the requirement was predicated on early availability of two REGULUS guided missile submarines, in addition to USS TUNNEY (SSG 282). It was announced that these submarines would not be available for three years, because of budgetary limitations; therefore, the requirement was reduced to four teams.

It was planned, late in 1953, or early in 1954, to transfer the Navy Guided Missile Training Unit 5 to Guided Missile Unit 50, and thus place it under the Commander, Submarine Force, Pacific Fleet. SWAT 1 and SWAT 2 had been deployed to Guided Missile Training Unit 5. SWAT 3 and SWAT 4 were under training at Field Command, Sandia Base. SWAT 5 and SWAT 6 were scheduled to commence training in the near future, for deployment about February 1954 and August 1954, respectively. SWAT 5 and SWAT 6 were to relieve SWAT 1 and SWAT 2. Personnel from SWAT 1 and SWAT 2 were to be reassigned to the Submarine Force. (Reference should be made to the history of the Operations and Training Division, in Section 6 of this chapter, under the heading "Alteration of Training Plans".) (Ref. 130, letter from CNO, control #2946,

file 322 x 354, 13 April 53, "Navy Special Weapons Units, Submarine Warhead Assembly Teams".)

(See also further information in par. 3-5-14.)

3-5-42. Stockpile-to-Target Sequences.

In November 1953, the Plans Division initiated a study to review the original purpose and current use of stockpile-to-target sequences. The study was also planned to determine which division or divisions of Headquarters, AFSWP, had the primary responsibility. The three services were consulted as well as the various divisions. A preliminary report was written, but the conclusions and recommendations were held pending consultation with Field Command, AFSWP, and the Sandia Corporation agencies.

3-5-43. Continuity of Operations in Wartime.

A revision of the AFSWP disaster plans was begun, in view of the changing plans for wartime operations.

Space for 20 AFSWP personnel at the Alternate Joint Communications Center (AJCC) was requested by letter to the Secretary of the Joint Chiefs of Staff, dated 13 October 1953 (Ref.[illegible], file SWPPR 320.4). At the end of the year 1953, notification of approval of this request had not been received, but it was understood that it would be forthcoming. As a result of this request, the Department of the Air Force asked for a detailed statement of the functions and duties of the AFSWP element at the Alternate Joint Communications Center. The statement was prepared and submitted to the Assistant Chief of Staff, G-3, Department of the Army, which was the coordinating agency. (Ref.[illegible], file 320.4.)

In addition to the problem of obtaining space at the Alternate Joint Communications Center, the relocation of the alternate headquarters of AFSWP, then at Cameron Station, Alexandria, Virginia, had been regarded as advisable. Several locations were considered, including Vint Hill Farms, Virginia, but the most promising location appeared to be the Marine Corps Reservation of Air Station at Quantico, Virginia. Accordingly, as the year 1953 ended, Quantico was being investigated as a possible site for the new alternate headquarters.

3-5-44. Deployment of 280 mm. Battalions.

In conference on 14 September 1953, representatives of G-4, Department of the Army, requested that Ordnance submit a study, by 1 October 1953, which would indicate whether the Army's plan for deployment of 280 mm. Artillery Battalions could be adequately supported; it was requested that the support capability of the AFSWP be included as a part of the Ordnance study.

The Army planned to deploy the 868th Artillery Battalion and the 135th Ordnance Company (Special Weapons) (Direct Support) to Europe on or about 1 October 1953; a second 280 mm. Artillery Battalion on 15 October 1953; and a third on 31 October 1953. When deployed, these three battalions would be located in a limited geographical area where they could be adequately supported for capability with Mark 9 weapons by the 135th Ordnance Company (Special Weapons) (Direct Support).

At the earliest possible date thereafter, the Army planned to deploy to Europe a fourth and a fifth 280 mm. Artillery Battalion, with one additional Ordnance Company (SW) (Direct Support). When deployed, these battalions would be so located that they could be

adequately supported for capability with Mark 9 weapons by the 2nd Ordnance Company (SW) (Direct Support).

In the meantime, the plans of the Army required that one 280 mm. Battalion and one Ordnance Company (SW) (Direct Support) be maintained ready for deployment on an emergency basis, to arrive in the Far East in less than a thirty-day period. This requirement extended to 1 January 1954 and might be indefinitely continued.

Based on the responsibility of the AFSWP for furnishing only special weapons equipment for 280 mm. Artillery Battalions and Ordnance Companies (SW) (Direct Support) within the Army, and on the assumption that the Army would analyze other factors which affected the readiness of these units for deployment, Headquarters, AFSWP, reported the following conclusions to the Chief of Ordnance:

a. The 135th Ordnance Special Weapons Depot (OSWD) Company and three 280 mm. Artillery Battalions might be deployed to Europe with capability for Mark 9 weapons. This would leave the 136th Ordnance Company (SW) (Direct Support) and five 280 mm. Artillery Battalions within the zone of interior, and available for emergency deployment to the Far East.

b. The 505th Heavy Artillery Ordnance Support Detachment (HACSD), which was in training at Field Command, was expected to be ready for the emergency requirement of the Far East on 20 October 1953. Then the 136th Ordnance Company (SW) (Direct Support) and any two of the remaining 280 mm. Battalions might be deployed to Europe with capability for Mark 9 weapons. This would leave the 505th Heavy Artillery Ordnance Support Detachment and the three 280 mm.

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Artillery Battalions within the zone of interior, with capability for Mark 9 weapons, for emergency deployment to the Far East.

c. The requirement for emergency deployment of one 280 mm. Battalion and one Ordnance Company (SW) (Direct Support) to the Far East could be indefinitely extended.

Headquarters, AFSWP, commented on certain implementing actions pertinent to the proposed deployment of units, which included the provision of nuclear technicians, the provision for technical inspection of deployed organizations, and a plan for movement of Mark 9 or reserve weapons from stockpile to deployed units. Consideration of the last named item was specifically excluded from the scope of the AFSWP report.

The Chief of Ordnance was advised that Headquarters, AFSWP, could foresee no difficulty in supporting capability of the Army for Mark 9 weapons in Europe, nor in the emergency requirement for the Far East as outlined above.

3-5-45. TX-11, BETTY, BOAR and TALOS-W Joint Task Groups.

The Chief of the Bureau of Ordnance, by letter dated 1 July 1953, requested that the Commanding General, Field Command, assume responsibility for the formation and operation of joint task groups (JTG's) in the development of TX-11, BETTY, BOAR, and TALOS "W" weapons.

(Ref. 132, letter, Secret-RD, BuOrd to Field Command, via CNO (OP-36) and Hq, AFSWP, file F41-6(19)/REXN-jhm:kld, Serial 008868, 1 July 53, "Joint Task Group for TX-11, BETTY, BOAR and TALOS "W".)

The Chief of Naval Operations concurred and forwarded the request by first indorsement. By 2nd indorsement, Headquarters, AFSWP, forwarded the letter, requesting Field Command to assume the responsibil-

ities as outlined. Direct communication with the Bureau of Ordnance was authorized and an outline of tentative procedures for the functions of the joint task group for BETTY was inclosed. Representatives of Headquarters, AFSWP, the Bureau of Ordnance, Field Command, and OP-51 and OP-36 of the Navy, decided, in conference on 11 August 1953, that the requested joint task groups (JTG) would be formed, to commence operations as soon as equipment was available after the complete design release (CDR) of each weapon. It was agreed that representatives of the Bureau of Ordnance, Field Command, and the Atomic Energy Commission would meet at Field Command, beginning 24 August 1953, for the following purposes:

a. To determine the scope of the JTG operations of each weapon.

b. To detail the responsibilities and procedures in accomplishing JTG functions.

c. To schedule dates and locations for JTG operations.

d. To establish reporting procedures and to agree upon reviewing authorities.

On 19 September 1953, a report from Field Command indicated that the problems concerning the joint task groups for TX-11, BETTY and BOAR had been satisfactorily resolved, but that no agreement could be reached concerning the scope of the JTG for TALOS-W.

(Ref. 32, letter, Confidential-RD, Field Command to Distribution List, including: Chief, BuOrd; President, Sandia Corporation; Director, LASL; and Hq. AFSWP, file 337, 19 Sep 53, "Joint Task Group for TX-11, BETTY, BOAR and Talos-W Weapons"; and inclosure thereto.)

The basic disagreement concerning the joint task group

for TALOS-W was outlined by Field Command to Headquarters, AFSWP, and to the Bureau of Ordnance in a letter dated 14 September 1953. The representatives of the Bureau of Ordnance contended that the responsibility of Field Command should include the entire weapon. Field Command indicated that the mission of AFSWP included responsibility for the warhead only and that the AFSWP did not have the personnel, the facilities, or the staff knowledge to give proper guidance to a joint task group for the entire TALOS-W missile.

(Ref. 132, letter, Confidential-RD, Field Command to Hq, AFSWP, copy to BuOrd, file 322, 14 Sep 53, "TALOS -W JTG".)

On 22 September 1953, representatives of the Bureau of Ordnance, in conversations with representatives of the Plans Division, Headquarters, AFSWP, indicated that a conference would soon be called, within the Bureau of Ordnance, to review the problems associated with the JTG functions for the TALOS-W weapon, and to determine whether the Bureau of Ordnance still wished the AFSWP to conduct the joint task group for the entire TALOS-W missile. This conference would consider whether it was desirable to have a joint agency evaluate and possibly discover defects, in a weapon developed by the Navy, which should be discovered and corrected within the Navy. In these conversations it was indicated also that the Bureau of Ordnance preferred that the Chief, AFSWP, delay a decision on the scope of the TALOS-W joint task group until that Bureau could reconsider the problem and conduct further conferences with the AFSWP.

Headquarters, AFSWP, on 23 October 1953, concurred in the proposals outlined in the tentative agreement between Field Command and

the Bureau of Ordnance for conducting joint task groups for TX-11, BETTY and BOAR weapons; and it was recommended that negotiations continue between Field Command and the Bureau of Ordnance to determine the scope of participation by AFSWP in the joint task group for the TALOS-W weapon.

(Ref./32, letter, Secret-RD, Hq, AFSWP, to Chief, BuOrd, with copies to CNO (OP-36), and CG, Field Command, AFSWP, file SWPPR 331, 23 Oct 53, "JTG for TX-11, BETTY, BOAR and Talos-W Weapons".)

The Chief of the Bureau of Ordnance, in a letter to Field Command dated 26 October 1953, indicated concurrence with the tentative agreement between the Bureau and Field Command, for conducting joint task groups for the TX-11, BETTY and BOAR, and suggested that further discussions be held, at Sandia Base on 10 November 1953, regarding the JTG for the TALOS-W.

(Ref./32, letter, Confidential-RD, Chief, BUORD to CG, FC, AFSWP, copy to Hq, AFSWP, file REXN-REH: ald, Serial F41-6(19), 26 Oct 53, "JTG for TX-11, BETTY, BOAR and TALOS-W Weapons".)

The conference on 10 November 1953 again placed the responsibilities for the joint task groups for the TX-11, BETTY, BOAR and TALOS-W weapons at the level of Field Command and the Bureau of Ordnance, as recommended by Headquarters, AFSWP, and by the Chief of Naval Operations (OP-36).

3-5-46. Revision of Responsibilities for Special Weapons Equipment Lists (SWEL's).

Field Command proposed to Headquarters, AFSWP, on 30 September 1953, that the responsibility for preparation of unit special weapons equipment lists be transferred from the AFSWP to the services. (Ref./33, letter, Secret-RD, file FCPD 322.011, 30 Sep 53, "Proposed

Revision of Responsibilities for Special Weapons Equipment Lists (SWEL's)".) Discussion with representatives of the services indicated that they were not prepared to accept the responsibility for preparation of these lists in the immediate future and that transfer of this responsibility should follow a progressive transition as the services achieved the required capability. The Navy indicated that the Bureau of Ordnance might possibly develop this capability in about one year. The Army indicated that the Chief of Ordnance would require probably 9 to 12 months. The Air Force indicated that Air Materiel Command could accept this responsibility in a shorter period.

Headquarters, AFSWP, agreed that the procedures for preparing special weapons equipment lists should be modified generally as outlined by Field Command, and requested Field Command to recommend a program aimed toward a step-by-step transfer of the SWEL responsibilities to the services. Field Command representatives indicated that such a plan was being developed and that the format of the lists was to be modified to facilitate such a transition.

3-5-47. Plan for Marine Corps Employment of Mark 7/HONEST JOHN.

The Commandant, U. S. Marine Corps, outlined plans to activate, within the Fleet Marine Force, a heavy artillery rocket (HONEST JOHN) battery, consisting of six launchers capable of firing three atomic missiles simultaneously. These plans were described in a letter to the Chief of AFSWP, dated 17 August 1953, sent through the Chief of Naval Operations (OP-36). Atomic support for this battery

would be provided by one Marine Tactical Support Assembly Team (MARTSAT). The concept of operations, composition and capabilities was outlined, and 1 July 1954 was established as the operational readiness date for MARTSAT No. 11. On 24 August, the Chief of Naval Operations (OP-36) forwarded the letter to Headquarters, AFSWP, and indicated that the proposed team would be listed for activation and training during Fiscal Years 1954 and 1955. Headquarters, AFSWP, on 15 September 1953 (by 2nd Indorsement) requested Field Command to furnish recommendations concerning the reporting date for personnel for MARTSAT No. 11 and the organizational equipment required by an organization of this type.

(Ref. 134, letter, Secret-RD, Comdt, USMC, to Chief, AFSWP, thru CNO (OP-36), file 003E18853/ao3hlw, 17 Aug 53, "Marine Tactical Support Assembly Team for Support of Heavy Artillery Rocket Battery"; 1st Ind., CNO (OP-36), 24 Aug 53; 2nd Ind., Hq, AFSWP, to Field Command, 15 Sep 53.)

Headquarters, AFSWP, sent to the Commandant of the Marine Corps, on 17 December 1953, the plan proposed by the AFSWP for establishing the capability for the Mark 7/HONEST JOHN weapon. It was noted in the letter of transmittal that representatives of the Marine Corps had indicated to representatives of the AFSWP during discussions that the operational readiness date for MARTSAT No. 11 had been changed from 1 July 1954 to 1 January 1955, and that the first Marine Artillery Rocket HONEST JOHN Battery was tentatively planned for operational readiness in the fourth quarter of Fiscal Year 1955.

(Ref. 134, letter, Secret-RD, Hq, AFSWP, to Comdt USMC, thru CNO (OP-36), file SWPPR 322, 17 Dec 53, "Plan for Marine Corps Support for Mk-7/HONEST JOHN Weapon".)

In this letter it was recommended that, in order to establish Mark 7/HONEST JOHN capability, the Commandant, USMC, should: (1) advise Headquarters, AFSWP, of the type of shelter to be procured for the operations of MARTSAT No. 11; (2) inform Headquarters, AFSWP, if formal cross-training of nuclear personnel of the MARTSAT was desired; (3) notify Headquarters, AFSWP, of changes to equipment requirements which might be generated on the implementation of the HONEST JOHN plan; and (4) state the requirements of the USMC to Headquarters, AFSWP, at least three months before the commencement of the desired courses. The conclusion of the letter indicated that Headquarters, AFSWP, could foresee no difficulty in establishing the capability for the Mark 7/HONEST JOHN warhead within the Marine Corps.

Headquarters, AFSWP, was advised by the Commandant of the Marine Corps, on 31 December 1953, that the change of the operational readiness date from 1 July 1954 to 1 January 1955, for MARTSAT No. 11, was confirmed. The Commandant also advised that appropriate action on the additional recommendations of the AFSWP, concerning personnel training equipment and facilities required for the support of the capability of the Marine Corps for HONEST JOHN, would be taken in the near future and would be the subject of separate correspondence.

(Ref. 134, letter, Secret-RD, Comdt, USMC, to Hq, AFSWP, thru CNO (OP-36), file A03H-BJM/003A36553, 31 Dec 53, "Marine Tactical Support Assembly Team for Support of the Heavy Artillery Rocket Battery".)

3-5-48. Capability of CVA [redacted] Special Weapons Divisions.

Headquarters, AFSWP, and Field Command, AFSWP, reviewed

the capabilities of CVA [redacted] Special Weapons Divisions in the light of a report from the [redacted] to the Chief of Naval Operations, dated 22 December 1952, and two indorsements thereto.

(Ref. (35) letter, TS-RD, [redacted] to CNO, file CVA [redacted] Serial 0002/23:BMA:rrb:rjx, 22 Dec 52, "Special Weapons Time Study Conducted Aboard [redacted] report of; and 1st and 2nd Ind. thereto.)

The AFSWP concurred in the opinion that steps should be taken to increase the weapon assembly rate of CVA teams, without increasing the size of the teams. Storage of special weapons in ready condition was recommended as the most practical method of immediately increasing the productive capability of carrier assembly teams.

The AFSWP indicated that ready storage of special weapons on board carriers presented the following advantages, primarily strategic and tactical:

a. Ready storage enhanced the emergency capability.

b. Ready storage reduced the time required to deliver the first weapon to the strike aircraft.

c. Ready storage made all special weapons available in a shorter time.

d. Preparation of weapons from ready condition required fewer functions and released personnel from assembly tasks to perform the duties of supervisors and technical monitors.

The AFSWP also noted that ready storage of special weapons on board carriers presented certain disadvantages, primarily technical and logistical, as follows:

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(1) With the detonators installed in the weapons, the danger of accident or explosion was increased. The increased danger was slight, however, since the detonators were less sensitive than their name implied, and less handling of detonators would be necessary. Thus, the danger of mishandling and dropping would be decreased.

(2) The usage of certain weapon components, including batteries and detonators, would increase, but not sufficiently to present any serious re-supply problem.

(3) The routine work-load of special weapons divisions would be increased, because ready storage required more frequent inspection of weapons and components.

(4) The reliability of weapons stored in ready condition might decrease slightly, because of the elapsed time between testing of components and loading for strike.

[redacted]

[redacted]

[redacted]

3-5-49. Management Control of Navy-Manned National Stockpile Sites.

The Bureau of Ordnance, USN, was designated, and was responsible, for management control of national stockpile sites (NSS) manned by the Navy. As stated in a letter from the Secretary of the Navy, dated 30 June 1952, management control "is the direction exercised, in other than military matters, by an authority of the Naval establishment over a unit of the Naval shore establishment in the administration of its legal operating functions".

(Ref. 136, letter, Sec. Navy, AG file 322 #2 1952. Control 9882, 30 June 52. "U. S. Naval Administration Unit, [redacted] establishment of"; and Ref. 136 GO #19 Navy Department, 20 May 1949.)

On 16 March 1953, the Bureau of Ordnance requested, by letter [redacted], a survey of the effects of a 5%, a 10%, and a 15% manpower reduction. This survey was directed as a part of the planning for reductions, in view of the Secretary of Navy Notice 1060. Headquarters, AFSWP, and Field Command, AFSWP, were not aware of this direct correspondence; and it may be noted that the AFSWP at that time utilized six to eight percent of the officer personnel, and 9.1 percent of the enlisted personnel, allocations of the Bureau of Ordnance. The contemplated reduction would have had an effect on the capability of the AFSWP to perform missions under Emergency War Plan commitments;

[redacted] SECRET [redacted]

[redacted]

therefore, the Bureau of Ordnance was requested to exercise the necessary management control through Headquarters, AFSWP. The Bureau of Ordnance and the Deputy Chief of Naval Operations (Personnel) emphasized that the intention was not to curtail the mission capabilities of the AFSWP without securing the views of the AFSWP; and "across-the-board" cuts were not contemplated.

(Ref. 136, letter, BuOrd, 16 March 53; reply by CCNAU [redacted] 31 March 53; SWPPR 320.4, 23 July 53, "U. S. Naval Administrative Unit, [redacted] Manpower Allocations; request for comment on"; SWPPR 200.3, 1 June 53, "Economic Utilization of Manpower; revision of allowances".)

3-5-50. Mechanical Processing of Field Command Tables of Distribution.

Considerable labor was expended by Field Command in reporting and proposing numerous changes to the manning instruments - the tables of distribution (T/D's). During the year 1953, Field Command employed electrical accounting machines to keep the sub-allocation vouchers current with administrative support actions. This process saved many man-hours and proved very effective. A proposal was made to broaden the use of electrical accounting machines to accomplish the production and changing of tables of distribution. The services employed this process and Field Command had electrical accounting machines which could be likewise employed. A survey was made of the three services to determine the technical requirements and the details involved. At the end of the year 1953, it was contemplated that the feasibility of this proposal would be studied and the approval of the services would be sought during the year 1954.

[redacted]

[redacted]

[redacted]

3-5-51. Army Manpower Requirements.

a. Forced Labor Account.

Field Command requested the allocation of 13 temporary ungraded civilian personnel spaces for 90 days, to conduct a project for seeding and erosion control at Bossier Base. The personnel spaces were authorized by the Department of the Army.

b. Scientific and Professional Enlisted Personnel.

Under the provisions of Special Regulations 615-25-11, it was possible for the AFSWP to secure scientific and professional enlisted personnel of the Department of the Army. These people were usually college graduates, trained in scientific research in physical science specialties. Service personnel were becoming available, and civilian personnel of the same type were being "priced out" of Civil Service salary scales. An effort to use properly these highly skilled enlisted personnel was made by changing the Army tables of distribution of the AFSWP to reflect their requirement. Specific fields of interest were physicists and electronic engineers.

There were disadvantages also to the use of such personnel. Considerable time was required to secure proper clearances for incumbents, and their service period was very limited.

(Ref./37, TWX, SWPPR 36015, 20 Aug 53; and Field Command TWX 908, Control No. 36079, 11 Sep 53.)

c. Medical Officer for Los Alamos Scientific Laboratory.

As a result of the Tri-Service Personnel Survey, spaces at Los Alamos Scientific Laboratory were reduced to six, allowing for only one medical position. In October 1953, Field Command requested that an increase of one medical officer be authorized for the Laboratory.

[redacted]

[redacted]

[redacted]

This request was forwarded to the Department of the Army in November, with justification for the increased authorization.

d. Kansas City Area Engineer.

Officer and civilian personnel spaces for the Kansas City Area Engineer Office were carried in the personnel allotment instruments of Headquarters, AFSWP. Enlisted personnel of the Kansas City office were carried as surplus personnel under Field Command. In fact, personnel assigned to Field Command were placed on duty with the Kansas City Area Engineer and stationed elsewhere. This administrative arrangement was unsatisfactory because of the type of duties being performed by the personnel; and a proposal was made that the enlisted personnel be assigned to Headquarters, AFSWP, in the same way as the officers and civilians. This action would have the obvious advantages of direct control over assignment of responsibilities and performance of duties. (Ref. 137, TWX SWPPR 4005, 20 Oct 53, to KCAE.) At the end of the year 1953, action still remained to be taken on securing authorized billets for the enlisted functions at the Kansas City Area Engineer Office.

3-5-52. Army Mobilization Plan III.

In August 1953, the Department of the Army requested an estimate by the AFSWP of manpower requirements for Army Mobilization Plan III. Administrative guidance was provided as follows:

"a. The M-Day composition of Army bulk allocation personnel will be the total personnel programmed for 30 June 1953.

"b. During the periods M through M + 6 months of mobilization, increases in Army personnel requirements should be planned for absorption in the office space now allocated except in those agencies where Army allocation of space is not applicable.

[redacted]

[redacted]

"c. Civilian personnel are to be utilized to the maximum extent possible."

(Ref. 138, letter, AGAC-C(M) 320.2 (7 Aug 53), 17 Aug 53, "Army Personnel Requirements for D/A AAU".)

From a study of Army Mobilization Plan III, it was learned that the Chief of Ordnance, Department of the Army, was planning for the activation of Ordnance Battalion Special Weapons (Support) and Ordnance Battalion Special Weapons (Depot). This plan required translation into mobilization training requirements for AFSWP. At the end of the year 1953, a letter was sent to the Department of the Army requesting guidance and specific mobilization responsibilities with respect to Army Mobilization Plan III. (Ref. 138, letter, SWPPR 322, 31 Dec 53, "AMP III".)

3-5-53. Mobilization Designee Program.

The assignment ceilings of the AFSWP for the mobilization designee program for Fiscal Year 1954 were reduced from 25 to 13 personnel spaces. An equitable redistribution of these personnel resources was made, as follows:

	Allocations	
	Previous	Reduced
Headquarters, AFSWP	5	2
Field Command, AFSWP	20	11
	25	13

Tentative tables of distribution, to reflect these allocations, were in process of preparation when the year ended. It was advantageous to have reserve designee spaces available, to recall former

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specialists and technicians of the AFSWP during a wartime situation.

(Ref. 138, letter, AGPR-D(M) 320.2 Org Res (24 Oct 52), 23 Oct 53, "Assignment Ceiling - Mobilization Designees for the Balance of Fiscal Year 1954".)

3-5-54. Air Defense Atomic Warheads.

On 24 August 1953, the Plans Division was assigned the problem of evaluating the need for atomic warheads in air defense, in both ground-to-air and air-to-air missile applications. A report on the ground-to-air portion of the problem was requested by the Military Liaison Committee for presentation to the Joint Chiefs of Staff. This report was assembled by the Plans Division from technical material furnished by the Weapons Development Division and the Weapons Effects Division. It was recommended in this report that the following requirement be transmitted to the Atomic Energy Commission:

"a. The JCS have determined that a requirement exists for new antiaircraft atomic warheads of 22" and 30" outside diameter having the following general characteristics:

"(1) An immediate readiness capability.
"(2) A yield of about [redacted]
"(3) Maximum economy of nuclear material while producing the above yield.
"(4) Compatible with the TALOS W, MIKE B and XF-99 delivery systems and capable of being used in a number of other delivery systems.

"b. It is requested that the Atomic Energy Commission undertake development of these atomic warheads based on the above characteristics."

After review at the meetings of the Military Liaison Committee on 6 October and 20 October 1953, a requirement for a yield [redacted] in the 22" geometry was added. The report was approved at the Military Liaison Committee meeting of 3 November 1953, with minor corrections, including a change in format to show that the report

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[redacted]

had been prepared by the AFSWP. It was forwarded to the Joint Chiefs of Staff by memorandum from the Military Liaison Committee dated 12 November 1953.

After the report had been forwarded to the Joint Chiefs of Staff, the Weapons Effects Division prepared a technical analysis which contained additional background material on this problem. This analysis confirmed some of the conclusions in the report and presented the following additional conclusions:

a. Delivery missiles available during the period 1956 to 1960 will require warheads with [redacted] yield for effective one-shot kill probabilities.

b. An offset-point of aim capability in the delivery system is highly desirable in order to maximize the effectiveness of atomic warheads.

This technical analysis did not leave Headquarters, AFSWP. In the meantime, a study was prepared by Allied Research Associates, who were under contract to Wright Air Development Center. They used a new method of analysis of effects, and their initial conclusion was that the gust envelopes in current use were not applicable as criteria for determining the aircraft kill probability for low-yield weapons. Much concern was evidenced by the AFSWP over this conclusion, and on 7 December 1953 a meeting was arranged among personnel of Allied Research Associates, Wright Air Development Center, and AFSWP, to review the calculations of Allied Research Associates. It was concluded that the requirement of [redacted] yield

[redacted]

set forth in the AFSWP report was the best estimate that could be made at the time, as there was considerable doubt that the [redacted] KT weapon would be effective in the systems under consideration. The Allied Research Associates intended to refine their study and present to the AFSWP a detailed analysis of the [redacted] effect parameters when applied against a TU-4 aircraft flying at 6,000 and 40,000 ft. altitudes. It was hoped that these studies could be extrapolated to wider range of yields.

The Military Liaison Committee was advised, by a memorandum dated 15 December 1953, that the Allied Research Associates were refining their study and that additional data were expected within six weeks or two months; and the AFSWP recommended that the study of development requirements, for the Atomic Energy Commission, should not be withdrawn or delayed pending receipt of the additional studies. A copy of SWP/53-1503 was forwarded to Field Command by letter dated 17 December 1953, and this letter contained information on the studies being conducted by the Allied Research Associates (Ref. 139). The Joint Chiefs of Staff acted on the recommendation of the AFSWP (JCS 2012/40, Ref. 140), on 30 December 1953, and forwarded the requirement to the Military Liaison Committee for transmission to the Atomic Energy Commission as SM-1958-53.

Preparation of a study on the air-to-air application of atomic warheads had been deferred.

3-5-55. Personnel.

Changes in the organization and functions of the Plans Division which took place during the year 1953 have already been

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[redacted]

described (see par. 3-5-1 above); this paragraph, therefore will deal with the personnel of the division only.

Lt. Colonel W. S. Stevens, CE, USA, who had been appointed Chief of the Plans and Requirements Division on 4 August 1952, continued to serve as Chief of that division, and of its successor, the Plans Division, throughout the year 1953. He was promoted to Colonel on 25 August 1953, by Department of the Army Special Order No. 167, par. 13, dated 25 August 1953.

At the beginning of the year 1953, the key assignments within the division were as follows:

Chief, Colonel (then Lt. Colonel) W. A. Stevens, CE, USA
Executive, Lt. Colonel A. S. Butler, Inf, USA
Secretary and Chief Clerk, Mrs. Eleanor Bischoff

Manpower Branch
Lt. Colonel J. A. Patalive, USAF
Major P. A. Morton, USA

Plans Branch
Lcdr. R. B. L. Creecy, USN
Major E. L. Miller, USAF
Major P. A. Morton, USA

Equipment Branch
Lt. Colonel D. F. Belfield, USAF
Cdr. L. W. Barnard, USN

The following changes in personnel occurred during the year:

Lt. Colonel Butler left the Project on 1 April 1953 and was succeeded as Executive by Lt. Colonel Belfield; the Equipment Branch, of which Lt. Colonel Belfield had been chief, became the Weapons Programs Branch, headed by Commander Barnard, assisted by Lt. Colonel J. B. Lamond, USA, who reported to the Plans Division on 11 April 1953.

Lt. Colonel Patalive left the Project on 1 February 1953.

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He was succeeded, as Chief of the Manpower Branch - and, later, the Manpower and Organization Branch - by Lt. Colonel H. J. Ruoff, USAF, who had reported to the division on 23 January 1953. Major Morton, who assisted Lt. Colonel Patalive in the Manpower Branch and assisted Lcdr. Creecy in the Plans Branch - later, the Special Studies Branch - continued to serve in the latter capacity until he left the Project on 24 August 1953.

Major Miller left the Project on 1 February 1953, and later in the year two new assistants were assigned to Lcdr. Creecy's Special Studies Branch: Lcdr. H. Strong, Jr., USN, on 20 September 1953; and Major F. F. Hollier, Jr., USAF, on 20 October 1953.

Lt. Colonel R. L. Moore, USA, reported to the Plans Division on 5 December 1953 and was assigned to Lt. Colonel Ruoff's Manpower and Organization Branch.

At the end of the year 1953 the key personnel of the Plans Division were the following:

Chief, Colonel W. A. Stevens, CE, USA
Executive, Lt. Colonel D. F. Belfield, USAF
Secretary and Chief Clerk, Mrs. Eleanor Bischoff

Special Studies Branch
Lcdr. R. B. L. Creecy, USN
Lcdr. H. Strong, Jr., USN
Major F. F. Hollier, Jr., USAF

Weapons Programs Branch
Cdr. L. W. Barnard, USN
Lt. Colonel J. B. Lamond, USA

Manpower and Organization Branch
Lt. Colonel H. J. Ruoff, USAF
Lt. Colonel R. L. Moore, USA

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FIRST HISTORY OF AFSWP 1947 - 1954

VOLUME 6 - 1953, CHAPTER 3 - HEADQUARTERS

SECTION 6 OF 14 SECTIONS

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HISTORY OF AFSWP

VOLUME VI - 1953

CHAPTER 3 - HEADQUARTERS

SECTION 6 - OPERATIONS AND TRAINING DIVISION

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CHAPTER 3 - HEADQUARTERS

SECTION 6 - OPERATIONS AND TRAINING DIVISION

(Ref.141, Memo, "History of AFSWP (O&T), 1 January - 30 June 1953", 53-1357/SWP, TS, 26 Aug 53; and Ref.141, Memo, "History of AFSWP - O&T Division, 1 July - 31 December 1953", 54-345/SWP, TS, rec'd 10 March 54.)

3-6-1. General.

The Operations and Training Division continued in 1953 to operate, in general, as it was operating at the end of 1952, with the same functions and organization. (See Vol. V, par. 3-6-1.) Changes in functions and organization occurred during the year 1953, but none of these changes was of a major character. These changes may be described as follows:

3-6

a. The function of staff action to effect movement of service special weapons units from Sandia Base, transferred from the Plans and Requirements Division, was assumed by the Operations Branch of the Operations and Training Division on 9 January 1953, as recorded in the preceding volume of this History. (See Vol. V, par. 3-6-1; Ref.142, Memo, Hq, AFSWP, "Transfer of Functions", 9 Jan 53.)

b. The function of staff action in connection with the Information and Education (I&E) program of the AFSWP and the program of the AFSWP for off-duty training in local universities was transferred from the Operations and Training Division to the Personnel Division on 4 June 1953.

c. The following functions were added to those of the Training Branch of the division, effective upon the discontinuance of the Weapons Defense Division, on 1 April 1953 (Ref.143, General Order

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[redacted]

No. 6, Hq, AFSWP, 20 March 53):

(1) Providing coordination and Support of Department of Defense Training for atomic defense.

(2) Providing the chairman and the secretariat for the Armed Forces Joint Radiological Defense Training Panel. (See par. 3-2-6a (6) of this chapter).

(The record of the activities involved in these functions, between 1 January 1953 and 1 April 1953, may be found in the history of the Weapons Defense Division for that period, in Section 9 hereinafter; the corresponding activities during the period between 1 April and 31 December 1953 are recorded in par. 3-6-3e, hereinafter.)

d. An intra-divisional change in organization and functions was effected, in the Operations and Training Division, as of 15 November 1953, when the functions of the Operations Branch, the Inspection, Storage, and Surveillance Branch, and the Communications Branch were combined into one branch, named the Operations Branch.

The changes described above were reflected in the Organizational Chart of Headquarters, AFSWP, 15 November 1953, and in the January 1954 edition of the booklet "Organization and Functions" of Headquarters, AFSWP. The functions of the chief, the executive, and the two branches of the Operations and Training Division were defined in the booklet as follows:

(a) Chief, Operations and Training Division.

"1. Reports to and advises the Deputy Chief of Staff, Operations, on matters concerning the operations, training, storage, inspection, surveillance and communications of the AFSWP.

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[redacted]

Takes policy actions on those matters.

"2. Directs, supervises and coordinates the activities of the Division.

"3. Assigns necessary tasks to the branches of the Division and initiates such studies as are required to fulfill the mission of the Division."

Except for the insertion of the words "Reports to" in item No. 1, and except for the transposition of items Nos. 1 and 2, these definitions were the same as those previously published, in August 1952.

(b) Executive.

"Assists the Chief of the Division in the performance of his duties and acts for him in his absence."

This definition remained unchanged.

(c) Operations Branch.

"1. Reviews Service and AFSWP operational plans to determine their feasibility and the adequacy of AFSWP support and takes action as necessary.

"2. Prepares AFSWP operational plans in support of the Service operational plans including emergency notification procedures in coordination with AEC and the Services.

"3. Maintains storage records and provides information thereon as required.

"4. Obtains Service storage requirements, makes necessary arrangements with AEC.

"5. Reviews surveillance and modernization schedules and correlates with Service requirements.

[redacted]

"6. Reviews storage inspection reports, takes necessary action on deficiencies.

"7. Reviews technical publications concerning assembly, storage inspection, and modification submitted for approval and takes action as necessary.

"8. Processes requirements by DOD agencies for distribution of technical publications covering assembly, storage inspection and modification.

"9. Maintains a working knowledge of technical aspects of atomic weapon assembly, storage inspection and shipment and storage.

"10. Examines weapons production programs on the basis of effectiveness and economy and takes action as necessary.

"11. Receives Service requests for AFSWP participation in maneuvers and takes necessary action to provide AFSWP support.

"12. Monitors Operational Suitability Testing programs of the Services, maintaining information on the status of current programs. Processes programs and reports received in this headquarters, taking action as appropriate. Maintains current file of OST programs and information.

"13. Reviews schedules and reports of AFSWP proficiency inspection teams, taking action as appropriate.

"14. Maintains current records (as available) of the operational status of all technical assembly organizations.

[redacted]

"15. Monitors Joint Task Group operations and reviews reports, taking action as necessary.

"16. Monitors AFSWP unit training program and takes necessary staff action to report readiness and to arrange for movements.

"17. Plans and programs communication facilities, taking necessary staff action to insure their adequacy in meeting AFSWP's mission.

"18. Prepares communication procedures in consonance with pertinent DOD regulations.

"19. Exercises technical control of communication facilities in this headquarters."

The definitions of the functions of this branch were completely different from those of the functions of any one of the branches of the division as previously organized (see Vol. V, par. 3-6-1, and Vol. IV, par. 3-6-16).

(d) Training Branch.

"1. Coordinates and consolidates requirements of the Services for unit and individual technical training conducted by AFSWP.

"2. Reviews and approves course curricula, schedules and quota allocations for AFSWP unit and individual technical training, securing Service approval as required.

"3. Monitors unit training programs to insure that activation and training of assembly units is satisfactorily

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"12. Budgets for, monitors curricula, and allocates quotas, to Service schools and civilian colleges conducting courses for postgraduate training related to atomic matters."

The definitions of the functions of this branch also were totally different from those of the functions of any one of the branches of the division as previously organized (see Vol. V, par. 3-6-1, and Vol. IV, par. 3-6-16).

3-6-2. [redacted]

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Pages 3.6.8 through 3.6.20 are deleted.

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3-6-3. Individual Technical Training.

Twice during the year 1953, the individual technical training program was revised, to meet more adequately the requirements of the services. The first revision occurred during the first half of the year and additional cadre courses were planned for each new weapon

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and warhead added to stockpile. The names and the designation symbols for the courses which were being conducted or planned for Fiscal Year 1954 were as follows (Ref. 153, FC letter, 15 May 53, "AFSWP Technical Courses for FY 54"):

Course	Designation
Assembly (Basic Electrical) - 4 wks	ABE
Assembly (Basic Mechanical) - 2 wks	ABM
Assembly (Mk 6 - Electrical) - 4 wks	ACE
Assembly (Mk 6 - Mechanical) - 1 wk	ACM
Assembly (Fuze-Abee MC-1) - 6 wks	AFA
Assembly (Fuze-Albert MC-3) - 3 wks	AFB
Assembly (Elsie Mk 8 - Electrical) - 1 wk	ALE
Assembly (Elsie Mk 8 - Mechanical) - 1 wk	ALM
Assembly (Elsie Mk 8 - Nuclear) - 1 wk	ALN
Assembly (Projectile Mk 9 - Nuclear) - 2 wks	APN
Assembly (Mk 5 and Mk 7 Electrical) - 4 wks	ARE
Assembly (Mk 5 and Mk 7 Mechanical) - 2 wks	ARM
Assembly (Mk 7 Mod 3 Electrical) - 4 wks	ATE
Assembly (Mk 7 Mod 3 Mechanical) - 2 wks	ATM
Delivery B (USAF Mk 5, 6, 8) - 3 wks	DB
Delivery D (USAF Mk 7 & 8 Externally carried) - 2 wks	DD
Delivery (Instructor) - 7 wks	DI
Delivery (Retrainer - Mk 12 and Mk 7 Mod 3) - 1 wk	DR
Guided (W-7 CORPORAL - Electrical) - 2 wks	GCE
Guided (W-7 CORPORAL - Mechanical) - 2 wks	GCM
Guided (W-7 HONEST JOHN - Electrical) 2 wks	GJE
Guided (W-7 HONEST JOHN - Mechanical) 2 wks	GJM
Guided (W-5 REGULUS - Electrical) - 3 wks	GRE
Nuclear Supervisor - 11 wks (reduced from 23 wks as noted below; see also par. 3-6-3f below)	NS
Nuclear Technician - 11 wks (reduced from 23 wks as noted below; see also par. 3-6-3f below)	NT
Nuclear Supervisor (Retrainer) (see FC letter 23 Dec 52, "Reorientation Course for Nuclear Supervisors", Ref.)	NR

The second revision of the individual technical training program was indicated in a letter from Field Command dated 21 December 1953 and a Student Flow Chart No. 2-54 inclosed therewith (Confidential letter, FCTNG/35211, 21 Dec 53, "AFSWP Technical Training Courses for FY 1954", and Incl 1 thereto, Ref. 153. With this revision the courses

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were designated as follows:

Course	Designation
Assembly (Basic Electrical)	ABE
Assembly (Basic Mechanical	ABM
Assembly (MK 6 - Electrical)	ACE
Assembly (Mk 6 - Mechanical)	ACM
Assembly (Mk 12 - Electrical	ADE
Assembly (Mk 12 - Mechanical	ADM
Assembly (Fuze-Abee MC-1)	AFA
Assembly (Fuze-Albert MC-3)	AFB
Assembly (TX-6-X4 Electrical)	AHE
Assembly (TX-6-X4 Mechanical)	AHM
Assembly (Elsie - Electrical)	ALE
Assembly (Elsie - Mechanical)	ALM
Assembly (Elsie - Nuclear)	ALN
Assembly (Projectile - Nuclear)	APN
Assembly (Mk 5 and Mk 7 Electrical)	ARE
Assembly (Mk 5 and Mk 7 Mechanical)	ARM
Assembly (Mk 7 Mod 3 Electrical)	ATE
Assembly (Mk 7 Mod 3 Mechanical)	ATM
Delivery - B	DB
Delivery - D	DD
Delivery (Instructor)	DI
Delivery (Retrainer)	DR
Warhead (CORPORAL - Electrical)	GCE
Warhead (Corporal - Mechanical	GCM
Warhead (HONEST JOHN - Electrical)	GJE
Warhead (HONEST JOHN - Mechanical	GJM
Warhead (MATADOR - Electrical)	GME
Warhead (REGULUS - Electrical)	GRE
Nuclear Supervisor	NS
Nuclear Technician	NT
Nuclear Supervisor Reorientation	NR
Special Weapons Employment	WE
Special Weapons Orientation	WO

(It may be noted that this list included all the courses of the previous list - with some changes in the names of these courses - and, in addition, Courses ADE, ADM, AHE, AHM, GME, WE, and WO; the last two were not new courses, but were added to make the list complete.)

To increase the output of the NS and NT courses, both were reduced from their former length - before the first revision of the year - 23 weeks, to 11 weeks. This reduction was accomplished by reducing the academic portion of each course from 16 to 8 weeks, and by reducing the laboratory portion from 7 weeks to 3 weeks.

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The new output for Fiscal Year 1954 was to be 120 NS graduates and 136 NT graduates.

Also, during the second half of 1953, the nuclear Reorientation Course was revised, to eliminate much of the developmental and effects information considered non-essential and to substitute therefor training in actual handling of material currently stockpiled at Site Able.

a. Assembly Courses.

Training of personnel for newly organized units and as replacements for existing units continued throughout the year 1953. As in the preceding volume of the History (see Vol. V, par. 3-6-3a), the numbers of those from the various services (and civilians) who completed the courses in 1953 are here presented in two separate tables, one for each half-year, as follows:

Course	USAF	USA	USN	USMC	CIV	TOTAL
First Half, 1953						
ABE - Off	142	43	62	1	7	255
EM	231	102	63	4	-	400
ABM - Off	34	11	13	-	26	84
EM	125	41	46	2	4	218
AFA - Off	1	3	1	-	2	7
EM	78	19	14	-	-	111
AFB - Off	5	-	2	-	1	8
EM	27	3	15	4	-	49
NS	22	9	33	1	-	65
NT - EM	21	10	16	2	1	50
Total, 1st Half Year	656	241	265	14	41	1247
Second Half, 1953						
ABE - Off	87	30	44	4	15	180
EM	103	67	90	5	-	265
ABM - Off	19	8	29	1	22	79
EM	117	58	80	4	-	259
AFA - Off	8	1	9	-	3	21
EM	58	15	24	2	-	99

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Course	USAF	USA	USN	USMC	CIV	TOTAL
(Second Half, 1953)						
AFB - Off	3	2	10	-	10	25
EM	61	11	22	-	-	94
MS - Off	20	15	24	1	-	60
MT - EM	20	25	26	4	-	75
Total, 2nd Half Year	496	232	358	21	50	1157
Total, Whole Year, 1953	1182	473	623	35	91	2404

b. Cadre Training Courses.

Training of instructor cadres for existing organizations continued throughout the year 1953, during the first half of the year on the Mark 5, 7, 8, and 9 weapons and during the second half of the year on the Mark 5, 6, 7, 8, 9, and 12 weapons. The numbers of those who completed the courses are shown in the following tables:

Course	USAF	USA	USN	USMC	CIV	TOTAL
First Half, 1953						
ACE - Off	76	8	9	-	2	95
EM	54	9	2	-	-	65
ACM - Off	21	5	3	-	9	38
EM	59	10	3	1	-	73
ARE - Off	32	10	19	-	5	66
EM	12	6	11	-	-	29
ARM - Off	17	2	4	-	1	24
EM	11	7	8	-	-	26
AL - Off	12	-	37	-	6	55
EM	11	6	23	1	-	41
APM - Off	1	4	1	-	-	6
EM	-	10	1	-	-	11
Total, 1st Half Year	306	77	121	2	23	529
Second Half, 1953						
ACE - Off	50	3	26	1	6	86
EM	74	7	23	-	-	104
ACM - Off	12	-	17	-	-	29
EM	87	4	28	-	-	119
ARE - Off	16	1	19	1	1	38
EM	21	2	20	2	-	45
ARM - Off	5	1	13	-	9	28
EM	14	2	15	-	-	31

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Course	USAF	USA	USN	USMC	CIV	TOTAL
(Second Half, 1953)						
AL - Off	11	-	9	1	3	24
EM	6	-	21	3	-	30
APN - Off	1	7	3	-	2	13
EM	1	6	4	-	-	11
Total, 2nd Half Year	296	33	198	8	21	558
Total, Whole Year, 1953	604	110	319	10	44	1087

(It should be noted that Courses ATE-1 and ATM-1 were cancelled.)

Nuclear officer reorientation classes were presented during the periods 16 to 18 February and 8 to 10 June 1953, in accordance with Special Weapons Regulation 30-1.

c. Air Crew Courses.

Training of Air Force, Navy, and Marine rated officers in the technical aspects of procedures for delivery of atomic weapons continued throughout the year 1953. The following numbers of personnel of the various services completed the courses during each half of the year:

Course	USAF	USA	USN	USMC	TOTAL
First Half, 1953					
DB	302	-	1	-	303
DD	214	1	59	31	305
DI	62	-	34	1	97
Total 1st Half Year	578	1	94	32	705
Second Half, ~~Year~~ 1953					
DB	311	-	1	-	312
DD	191	-	-	-	191
DI	46	-	8	10	64
Total 2nd Half Year	548	-	9	10	567
Total, Whole Year, 1953	1126	1	103	42	1272

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The DB Course was shortened in June 1953, from four weeks to three weeks, with Class DB-63. The DI Course was conducted for the first time starting on 5 January 1953. Seven classes were conducted, to train instructors for delivery training centers of the Air Force, the Navy and the Marine Corps. During the spring of 1953, the Navy integrated special weapons delivery training into its flying training programs conducted by Commander, Air Force, Atlantic Fleet (COMAIRLANT), and Commander, Air Force, Pacific Fleet (COMAIRPAC). Planning and training within the Air Force and the Marine Corps progressed along similar lines.

d. Staff Officers.

(1) Special Weapons Orientation Course (WO).

The output of the Special Weapons Orientation Course, Course WO, for staff officers, was less during the year 1953 than during the previous year, because of the establishment of similar training courses within the services (see Vol. V, par. 3-6-3e'1).) The numbers who completed this course during each half of the year were as follows:

	USA	USN	USAF	USMC	CIV	TOTAL
1st Half Year	301	206	207	41	128	883
2nd Half Year	160	33	262	5	85	545
Total, 1953	461	239	469	46	213	1428

The total for the year, 1,428, may be compared with the total for 1952, which was approximately double that number, 2,885.

(2) Weapons Employment Course (WE).

The Weapons Employment Course, Course WE, was

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conducted three times during the first half of the year. Instructors for Navy WE courses at San Diego, California, and at Norfolk, Virginia, attended Course WE-9; commencing 6 January 1953, and courses at these locations were established during May 1953. The numbers who completed the AFSWP WE Course during the year were as follows:

	USA	USN	USAF	USMC	CIV	TOTAL
1st Half Year	45	34	16	7	1	103
2nd Half Year	39	15	10	2	-	66
Total, 1953	84	49	26	9	1	169

The total for the year, 169, may be compared with the total for 1952, 261.

e. Atomic Defense Training.

As stated previously (see par. 3-6-1 above), the functions of providing coordination and support of Department of Defense Training for atomic defense, and of providing the chairman and secretariat for the Joint Radiological Defense Training Panel, were added to the functions of the Training Branch of the Operations and Training Division when the Weapons Defense Division was discontinued, on 1 April 1953. The activities and events connected with these functions before 1 April 1953 are recorded in Section 9 of this chapter, hereinafter; the corresponding activities and events during the period 1 April to 31 December 1953 are recorded here.

(1) Joint Radiological Defense Training Panel.

No formal meetings of the Joint Radiological Defense Training Panel were held between 1 April and 31 December 1953. The changes in the personnel of the panel, which occurred during the year, have already been recorded (see par. 3-2-6a(6) of this chapter).

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Captain Charles Blenham, Jr., USN, replaced Captain Robert A. Hinners, USN, as chairman, on 27 May 1953; Commander Francis E. Somers, USN, was appointed alternate chairman, on the same date; Dr. Karl F. Gerlein replaced Lt. Colonel Harold C. Boehm, USMC, as secretary, on 29 April 1953; and Lt. Colonel Carl V. Burke, CMLC, USA, replaced Colonel Robert C. Mottley, as Army representative, on 2 March 1953. (See also par. 3-9-2a(1).)

(2) Six-Week Atomic Defense Officers' Course.

The Atomic Defense Officers' Course, conducted by the services - a six-week course - graduated a total of 171 officers and selected civilians during the period 1 April to 31 December 1953, 77 before the end of the first half-year and 94 during the second half-year. By schools, these totals were divided as follows:

Chemical Corps School, Fort McClellan, Alabama.

1st Half Yr.: 47; 2nd Half Yr.: 36; Total: 83.

U. S. Naval Schools Command, Treasure Island, California.

1st Half Yr.: 30; 2nd Half Yr.: 58; Total: 88.

This brought the total number of graduates of this course to 2,746 as of 30 June 1953, and to 2,840 as of 31 December 1953.

The breakdown by services was as follows:

	USA	USN	USAF	USMC	OTHER*	TOTAL
1st Half Year	18	40	1	3	15	77
2nd Half Year	9	52	4	5	24	94
Total	27	92	5	8	39	171

* The column headed "Other" includes personnel of the U. S. Coast Guard, U. S. Civilians, and NATO military personnel.

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As recommended by the Joint Radiological Defense Training Panel at its last previous meeting (see Section 9 hereinafter), letters were forwarded to the services, requesting statements of their requirements for continuation of these courses, on 4 May 1953. After the receipt of replies to these letters the decision was made to discontinue the courses. The report above, for the second half of 1953, was therefore the last report on the Atomic Defense Officers' Course conducted by the services.

(See also par. 3-9-2a(2).)

(3) Three-Year Radiological Defense Engineers' Course.

The three-year Radiological Defense Engineers' Course was conducted at the U. S. Naval Postgraduate School, Monterey, California, and at the University of California, Berkeley, California.

The fourth class graduated from the University of California on 18 June 1953, and twelve officers received their Master's Degree in Radiobiology. One class, the fifth, still remained to be graduated before the phasing out program was to be completed.

(See also par. 3-9-2a(3).)

(4) Two-Year Nuclear Engineering (Effects) Course.

The two-year Nuclear Engineering (Effects) Course was conducted at the U. S. Naval Postgraduate School, Monterey, California. The seventh class of this course convened on 3 August 1953, with an enrollment of 16 officers, divided as follows: 7 Army; 7 Navy; 2 Air Force.

(See also par. 3-9-2a(4)

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(5) Structural Dynamics Course.

The Structural Dynamics Course was conducted at the University of Illinois. The convening date for this course was changed from the fall semester to the summer session in order that the students might complete 32 semester hours of study within a period of 14 months. The second class convened at the University of Illinois in June 1953, with an enrollment was 9 officers, divided as follows: 3 Army, 4 Navy, 2 Air Force.

(See also par. 3-9-2a(5).)

(6) Training Course for Instructors in Maintenance of Radiac Equipment.

The training course for instructors in the maintenance of radiac equipment was conducted at Treasure Island, California.

Three classes were graduated before the middle of the year and three classes were graduated during the second half of the year, with a total, for the year, of 73 graduates. The breakdown by services was as follows:

	USA	USN	USAF	USMC	OTHER	TOTAL
1st Half Year	21	1	9	1	4	36
2nd Half Year	5	14	9	9	0	37
Total	26	15	18	10	4	73

This brought the total number of graduates, as of 31 December 1953, to 313.

(See also par. 3-9-2a(6).)

(7) Atomic Defense Correspondence Course.

The Atomic Defense Correspondence Course was

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conducted at Treasure Island, California. The status of this course remained unchanged during the period 1 April to 31 December 1953.

(See also par. 3-9-2a(7).)

(8) Field Trips for Graduate Students.

The two classes of students at the University of California were joined by the class at the Naval Postgraduate School in Monterey, on a trip to the Nevada Proving Grounds, between 3 and 10 May 1953, to witness shot ENCORE of the spring series of nuclear tests. The AFSWP made all the arrangements for this field trip. The class at Monterey also made a training trip to the Naval Radiological Defense Laboratory (NRDL), at Hunters' Point, San Francisco, during the period 15 to 19 June 1953.

By granting financial aid, the AFSWP made possible the participation of the students in the Structural Dynamics Course at the University of Illinois in a research project. This was the research project conducted by that University at the Nevada Proving Grounds, and the students participated as assistants, during the month of May 1953.

The 5th Radiological Defense Engineers' Class, at the University of California, and the 6th Nuclear Engineering (Effects) group at Monterey joined in taking a Special Weapons Employment Course of four weeks, conducted at Sandia Base. This was the first time advanced groups had been able to take such a course under the AFSWP, and approximately two years of effort had been required to make this course possible. Cognizant personnel at Field Command stated that this group of officers had attained the highest average grade ever made

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in this course.

(See also par. 3-9-2a(8).)

(9) Advanced Atomic Defense Training for Medical Officers.

The class in advanced training for Medical Officers was again held at Reed College, Portland, Oregon, and at Oak Ridge, Tennessee. The class consisted of 6 officers - 3 Army, 2 Navy, and 1 Air Force - convening at Reed College in August 1953. (This course was formerly administered by the Weapons Defense Division, but was transferred to the administration of the Operations and Training Division as of 1 April 1953.)

f. General Influence of Equipment Development.

The nuclear training courses were reviewed in the light of current developments and of the concepts of the services for weapon storage and utilization. It was determined that as a result of the increased reliability of initiators the training courses for nuclear supervisors and technicians could be shortened to eight weeks of academic instruction and three weeks of practical work at Rocky Flats, Colorado. This change was implemented to start with Courses NT-12 and NS-12 during July and August 1953. (See list of courses at beginning of this paragraph, 3-6-3, Courses NS and NT.)

The responsibilities for training in guided missile warhead adaption kits were under study to determine courses of action for the AFSWP and for the individual services after 1 July 1954 - the date on which it was presumed that the services would be responsible for development and production of adaption kits.

Analysis and discussion were devoted to the AFSWP

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training program after Fiscal Year 1954, and to the mission of AFSWP in the field of thermonuclear training. At the end of the year 1953, the advent of guided missile warheads and thermonuclear bombs was still the major item facing the training planners; what the responsibility of AFSWP in these fields would be was still not clear.

New courses started during the year 1953, because of the addition to stockpile of new or modified weapons, have been indicated in the lists of courses recorded earlier herein (see first part of par. 3-6-3). These new courses included: ATE and ATK - Mark 7 Mod 3; AFB - MC-3 Radar; DR - Mark 7 Mod 3 and (later) Mark 12; ADE and ADK - Mark 12; AHE and AHK - TX-6-X4; GME - MATADOR.

g. Summary of AFSWP Graduates.

Summary totals of the numbers graduated from AFSWP courses during each six-month period of the year 1953, together with the numbers graduated during the last six months of the preceding year (for comparison), and the grand totals as of 31 December 1953, are listed below:

	USAF	USA	USN	USMC	CIV	TOTAL
1 July 52 - 31 Dec 52	1457	1024	877	107	173	3638
1 Jan 53 - 30 June 53	1900	849	778	100	200	3827
1 July 53 - 31 Dec 53	1869	589	749	56	175	3438
Total, 1953	3769	1438	1527	156	375	7265
GRAND TOTAL 18 March 46 - 31 Dec 53 *	12065	5637	5236	666	1048	24652

* The grand totals here reported were obtained by adding the totals for each half of 1953 to the totals for the period before 31 December 1952, as recorded in the preceding volume of this History (Vol. V, par. 3-6-3g). The grand totals reported by Field Command did not agree with these figures and there was no explanation

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of the discrepancies. The figures reported by Field Command, as of 31 December 1953, were: USAF, 12,065; USA, 5,640; USN, 5,251; USMC, 672; CIV, 1,055; TOTAL, 24,683.

3-6-4. Other Training Activities.

a. General.

The first half-year of 1953 was marked by an awakening interest in training aids, primarily because of the increased training activities of the services in this field. The AFSWP was the principal source of training aids because of its contacts with the Atomic Energy Commission. Also, a new program was instituted for providing training aid materials to site and assembly organizations which had been deployed. (Ref. 15[illegible], letter, Hq, AFSWP, to the three services, SWPCT 353, 15 June 53, "Training Materials for Deployed Special Weapons Assembly Units".)

Recommendations on methods of target analysis for tactical atomic weapons, based on the results of a conference at Field Command, 18 to 20 August 1953, were forwarded by letter to the services dated 23 December 1953. (Ref. 156, letter to services SWPCT, 23 Dec 53, "Methods of Target Analysis for Tactical Atomic Weapons Employment".) At the end of the year, replies to this letter had not been received from the services.

Planning and preparations were under way at the end of the year to establish training in the TX-15 weapon at Field Command, for personnel of the Navy and of AFSWP.

b. Film Projects.

(1) First Half Year.

Four training films were completed by the AFSWP

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during the first six months of 1953, and they were distributed to schools conducting special weapons training. These films were:

30-16-52, "Atomic Weapons Tests - TRINITY THRU BUSTER - JANGLE" (Production by Lookout Mountain Laboratory).

MN 7856, "Atomic Bombs at Sea" (Production by Naval Photographic Center), which replaced " The A-Bomb at Sea".

TF 38-1842, "The 280mm Atomic Shell (Stockpile to Target)" (Production by Signal Corps Photographic Center).

MN 5301, "TUMBLER-SNAPPER Technical Film Report" (Production by AFSWP and Naval Photographic Center).

In production at the end of the first half-year were the following films, requested by Field Command and authorized previously:

30-11-53, "A Special Weapons Orientation" (Production by Lookout Mountain Laboratory).

30-17-53, "Air Force Delivery Vehicles" (Production by Lookout Mountain Laboratory).

30-19-53, "Atomic Guided Missiles" (Production by Lookout Mountain Laboratory).

Also, in the early stages of production on 30 June 1953, at the request of Field Command during the first half of the year, was a new series of brief technical film "bulletins" (FB). These films were:

Film Bulletin No. 1, "External Loading of the Mk 7"
Film Bulletin No. 2, "Internal Loading of the Mk 5"
Film Bulletin No. 3, "Loading the Mk 8 (on the Banshee)"
Film Bulletin No. 4, "Mk 7 Preparation for Air Force Loading"
Film Bulletin No. 5, "Mk 7 Preparation for Navy Loading"
Film Bulletin No. 6, "TX12X1"

All of these films were to be produced by Lookout Mountain Laboratory, except FB No. 6, which was to be produced by Sandia Corporation West

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Laboratory. In addition, a short film, MN 9296, "UPSHOT - KNOTHOLE Technical Film Report" was being reproduced. Based on AFSWP Circulars Nos. 1 and 3 (Ref./57), films which the Operations and Training Division sponsored were currently being processed through the newly established Motion Picture Review Board, and its secretary, the Headquarters Motion Picture Staff Officer. (See the history of the Weapons Effects Division, in Section 6 of this chapter.)

(2) Second Half Year.

Seven training films were completed by the AFSWP during the second six months of 1953. Distribution to schools conducting special weapons training was completed before the end of the year on one of these films:

30-17-53, "USAF Atomic Bombs Delivery Aircraft (Piloted)" (It will be noted that this final title was worded somewhat differently from the earlier title listed in subparagraph (1) above.)

Production was completed on the six other films and they were being made ready for distribution to schools or service units, or both, at the end of the year:

30-19-53, "Atomic Guided Missiles"

30-21-53 (AFSWP Film Bulletin No. 4), "Special Weapons Loading - The Mk 7 on the Thunderjet"

30-22-53 (AFSWP Film Bulletin No. 2), "Special Weapons Loading - The Mk 5 on the B-45"

30-23-53 (AFSWP Film Bulletin No. 3), "Special Weapons Loading - The Mk 8 on the Skyraider"

30-24-53 (AFSWP Film Bulletin No. 5A), "Special Weapons Loading - The Mk 7 on the Banshee"

30-24-53 (AFSWP Film Bulletin No. 5B), "Special Weapons Loading - the Mk 7 on the Banshee"

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All of the above films were produced by the Lookout Mountain Laboratory (USAF).

In production at the end of the year, requested by Field Command and authorized previously, were the following films:

30-11-52, "A Special Weapons Orientation" (Production by Lookout Mountain Laboratory) in five parts, usable as separate films, as follows:

Part I, "Organization for Atomic Energy"
Part II, "Basic Atomic Weapons"
Part III, "Weapons Family"
Part IV, "Stockpile to Target"
Part V, "Effects of Atomic Weapons"

The following films were in the final stage of production at the end of the year:

30-26-53, "Atomic Tests, 1952-53" (Production by Lookout Mountain Laboratory)

30-27-53 (AFSWP Film Bulletin No. 6), "The W-5/REGULUS Warhead" (Production by Lookout Mountain Laboratory)

AFSWP Bulletin No. 1, "The Mk 7 Mod 3" (Listed in subpar. (1) as Film Bulletin No. 6, "TM12X1") (Production By Sandia Corporation West Laboratory)

MN 9296, "UPSHOT-KNOTHOLE Technical Film Reports", listed in subparagraph (1) as being in production, was cancelled.

On 28 December 1953, AFSWP Circular No. 14 (Ref. 157), covering a new policy on motion picture production, was published. It replaced AFSWP Circulars Nos. 1 and 3, and established responsibilities, policies, and procedures affecting both Field Command and Headquarters, AFSWP. The AFSWP Motion Picture Review Board continued to function under the new policies of Circular No. 14.

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c. Service Orientation.

Lectures delivered by the Chief of AFSWP - by General Loper and by General Luedecke - for orientation of various groups in atomic energy, during the year 1953 have been recorded in another section of this chapter. (See par. 3-3-15.) No lectures of this kind were delivered by members of the Operations and Training Division during the year.

d. Special Orientation Trips of AFSWP Personnel (O&T).

The usual routine visits were made by officers of the Operations and Training Division, to schools, to courses at Sandia Base, and to service facilities, during the year 1953, for their own special orientation.

e. Instructional Material.

The volume and the types of special weapons instructional material and devices supplied to the services for training purposes increased considerably during the year. Basic and special kits of instructional material for delivery training courses were created and distributed to a large number of service agencies. Increased needs of the services in the zone of interior and overseas caused a larger distribution of the basic and special kits of instructional material on weapons orientation and weapons effects. New slide material was added in special kits. A considerable amount of instructional material was supplied to special weapons courses newly established in service schools. Such courses included: the atomic demolition munitions course at Fort Belvoir, Virginia; an indoctrination course of the Commander in Chief, Far East (CINCFE); and a course of the Commander in Chief, U. S. Army

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Europe (CINCUSAREUR).

Kits containing Vugraph transparencies of technical information for deployed assembly units were distributed. This project consisted of eleven types of kits and required the reproduction of about 35,000 transparencies.

Several two- and three-dimensional training aids initiated by the Technical Training Group, Field Command, were being developed during the year 1953 by the Naval Special Weapons Devices Center. Included among these aids was a universal delivery trainer (15-V-8) for use in training flying crews to flight-test weapons effectively. Production models for the services and for Field Command were being produced through the Special Weapons Devices Center. There was also a prototype model of an animated block diagram, for depicting arming sequences and basic circuitry for the Mark 6 fuze, which was delivered to the Technical Training Group for evaluation.

Two- and three-dimensional training aids, initiated by the Technical Training Group, Field Command, which were developed or under development when the year ended, included the following:

(1) The Universal Delivery Trainer (15-V-8), referred to above, used to simulate Mark 5, Mark 6, and Mark 7 Mods 0, 1, and 2 weapons for training purposes. Units of this device were being produced and distributed to the services and to the AFSWP.

(2) A Modification Kit (15-V-8a) for the Universal Delivery Trainer (15-V-8). This kit was to provide a capability for the Mark 7 Mod 3 weapon for the 15-V-8. Three prototypes were being produced for evaluation by the services.

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(3) A Delivery Trainer (48-A-1) for the Mark 7 Mod 3 weapon. Since the weapon simulator component might be detached from the trainer, this device could provide training on externally carried weapons. Three prototypes were being produced for evaluation by the services.

(4) A Training Device (ORATO-D1); a 4X scale working model of one section of an MC-72 motor timer. One prototype was being produced for Field Command.

(5) A Training Aid Device (ORATO-D2); a 7X scale working model of one baro switch element of an MC-10 barometric switch. One prototype was being produced for Field Command.

(6) High Explosive Assembly Devices (ORATO-D3, D4, D5); take-apart models, large scale, of charges for Mark 5, Mark 6, and Mark 7 Mod 3 weapons. One prototype of each was being produced for Field Command.

(7) A Training Aid, Atomic Weapons Trajectories Device (ORATO-D9); a board which depicted the functioning of atomic weapons and missiles during progressive phases of fall or flight. One prototype was being developed for Field Command.

(8) A Training Aid, Fuzing Systems "A" and "B" (Devices ORATO-D10 and D11); a panel showing, with lights and animation, the functioning of "strategic" and "tactical" fuzes. One prototype was being developed for Field Command.

A plan for the revision of the literature on special weapons employment was forwarded to the services by letter on 22

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December 1953 (Ref.158, letter to services, SWPOT 353, 22 Dec 53, "Special Weapons Employment Literature"). This plan included a Secret-Non-Restricted-Data employment manual for training and operational use of service personnel and possibly of the North Atlantic Treaty Organization (NATO).

f. Official Observers, Troop Participation (EI Atomic Tests).

(1) Official Observer Program-UPSHOT-KNOTHOLE.

In setting up the official observer program for UPSHOT-KNOTHOLE, close coordination was maintained with the Atomic Energy Commission. It was agreed that Headquarters, AFSWP, would arrange transportation by special air mission, would establish the order of precedence of observers, and would forward rosters in order of priority to the Visitors Bureau, Nevada Proving Grounds. During the first half of the year, 554 persons were processed as official observers, including 151 Congressmen. (Ref.159, Final Report, "Official Observer Program, UPSHOT-KNOTHOLE", dated 9 June 1953).

(2) Policy on Attendance of Foreign Observers.

With reference to the attendance of foreign observers at atomic tests, information was obtained from the Military Liaison Committee, as a result of their meeting of 20 October 1953, that until the time and extent of each test was determined, no policy could be established. This information was passed on to the Air Force.

(3) Troop Participation.

Before the responsibility for troop participation

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was assumed by the Operations and Training Division, the groundwork for the program had already been accomplished by the Weapons Test Division (see Vol. V, par. 3-6-1 and par. 3-10-3f). The primary job of the Operations and Training Division consisted of arranging a quota of 150 troop-observer spaces for Field Command and monitoring the program in general. A field trip was arranged for nuclear and radiological safety engineers to observe Shot ENCORE as troop observers (this is covered in par. 3-6-3e(8) above, q.v.).

3-6-5. [redacted]

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The actual transfer of the nuclear components from the custody of the Atomic Energy Commission to the custody of the Department of Defense presented several difficulties. Initially, it was supposed that the Director, Division of Military Application (DMA), AEC, would execute the transfer upon the basis of a letter, citing action of the Joint Chiefs of Staff, from the Chief, AFSWP. This was not the case, and a letter from the Secretary of Defense stating that the Department of Defense was ready to accept full responsibility for security, surveillance, and storage, and that the number of components requested was within the limits authorized by the President, was required to obtain the desired action. The time necessary to prepare the letter and procure the signature of the Secretary of Defense, who was at Quantico at the time, caused a considerable delay (a matter of hours) in the execution of the transfer.

In addition, the Atomic Energy Commission desired further assurance from the Department of Defense, to the extent of requiring a certificate reading as follows:

"As authorized representative of the Department of Defense, I accept complete responsibility for the material identified hereon, and further agree that this material was received in an acceptable condition."

The AFSWP had several objections to such a certificate; after considerable discussion regarding the principle involved, however, General Luedecke decided that the AFSWP would sign the receipt of the Atomic Energy Commission, but that the AFSWP would not require the services to sign similar receipts.

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d. Special Studies.

(1) Capabilities Study.

A staff study of site capabilities was prepared by the Inspection, Storage and Surveillance Branch of the Operations and Training Division. Information from this study was presented to senior officers of the three services on 25 June 1953 by General A. R. Luedecke, Chief, AFSWP, and the study was later submitted to the three services (Ref. 164, letter, SWPOT, 3 July 53, "AFSWP Support Service Operations Plans"), with a recommendation that it be submitted to the Joint Chiefs of Staff. (The study became a part of JCS 2220/24, on 20 July 1954, Ref. 165.) Another letter concerning coordination of day-to-day work-loads at the sites was in preparation by the Operations and Training Division at the end of the year.

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(2) Production Control Study.

Near the end of June 1953, a study was started to determine whether money could be saved, while still maintaining operational efficiency and flexibility, by reducing the ratio of certain non-nuclear components.

This study was undertaken by Lt. Colonel W. S. Matthews, USAF, of the Operations and Training Division and Lt. Cdr. R. B. L. Creecy, USN, of the Plans Division. It covered two main areas: (1) the need for the production of warheads as such; and (2) the possibility of saving money by careful control of total production of interchangeable items. This study was presented to the Chief of AFSWP near the close of the year 1953 and was still in his hands when the year ended. The Plans Division was responsible for any future action on this project.

(3) Weapons Orientation Course.

A study of the objectives and scope of the WO Course of AFSWP, in the light of WO courses conducted by the services, was started at the end of the year 1953.

(4) Analysis of Site Capability.

A study of site capability was started as an attempt to find out whether national stockpile sites could specialize in given weapons, to avoid too broad a capability at any one site. Field Command was preparing a parallel study at the end of the year. General Loper had made certain recommendations in this area to the Atomic Energy Commission. This study was still under way at the end

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of the year.

(5) Operational Suitability Testing.

On 12 October 1953, the Operations Branch of the Operations and Training Division submitted a staff study under the title: "Operational Suitability Testing". This study was made to evaluate the adequacy of joint policy agreements on operational suitability tests (OST), in the light of the results experienced since the implementation of the agreements in 1951, with particular attention to the AFSWP mission.

(6) Common Reference Hour.

As a result of the study of site capabilities (see subpar. (1) above), a working group was constituted to prepare a jointly approved plan for the establishment of a common reference hour to be used as a common basis for all pickup schedules. This group was made up of representatives from the three services, the AFSWP, and the Joint Chiefs of Staff. The recommendation of the group, jointly approved, was submitted by the Chief, AFSWP, to the Secretary of the Joint Chiefs of Staff in August 1953 and subsequently was published, with minor changes, as a part of JCS 1968/20, dated 29 September 1953. The procedure, briefly, was as follows:

The Joint Chiefs of Staff would issue a P hour in the form of an executive order. This time would be established as the first Greenwich Civil Time (GCT) hour (Zebra time) and date after the decision to deploy weapons had been made, if there had been no earlier warning order. Provision was made to adjust the P hour to take advantage of time saved in the event a warning order

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and the Air Force.

The Air Force proposed to the AFSWP that the Air Force assume complete responsibility for inspection of all Air Force special weapons organizations. Representatives of the Air Force and of AFSWP met on 21 September 1953 and drafted an Air Force plan, for submission to the Army and the Navy (Ref.166, letter of 24 September 53). After obtaining the views of the Army, 23 October 1953, and of the Navy, 20 October 1953, and after considerable study of the proposal (Ref.166, Memo for Record, O&T Division, 16 November 53), the AFSWP concluded that continuation of annual technical proficiency inspections of all special weapons units that stored weapons was the minimum degree of inspection acceptable. Further influencing data on this subject were contained in a memorandum from the Assistant Secretary of Defense, dated 16 October 1953 (Ref.166). At the end of the year, a letter to the Air Force was being coordinated.

The Navy informally concurred in a proposal of AFSWP, dated 27 May 1953, that the Navy assume the responsibility for technical proficiency inspection of units not storing weapons. The scheduled change-over dates were 1 September 1953 for Special Weapons Unit, Atlantic Fleet (SWULANT), and 1 October 1953 for Special Weapons Unit, Pacific Fleet (SWUPAC). Thus the Navy established an inspection system for SWULANT and SWUPAC and assumed the responsibility for inspection of Navy special weapons units not charged with the storage of weapons.

On 1 July 1953, the AFSWP reduced the frequency of inspections of service special weapons units from semi-annually to annually.

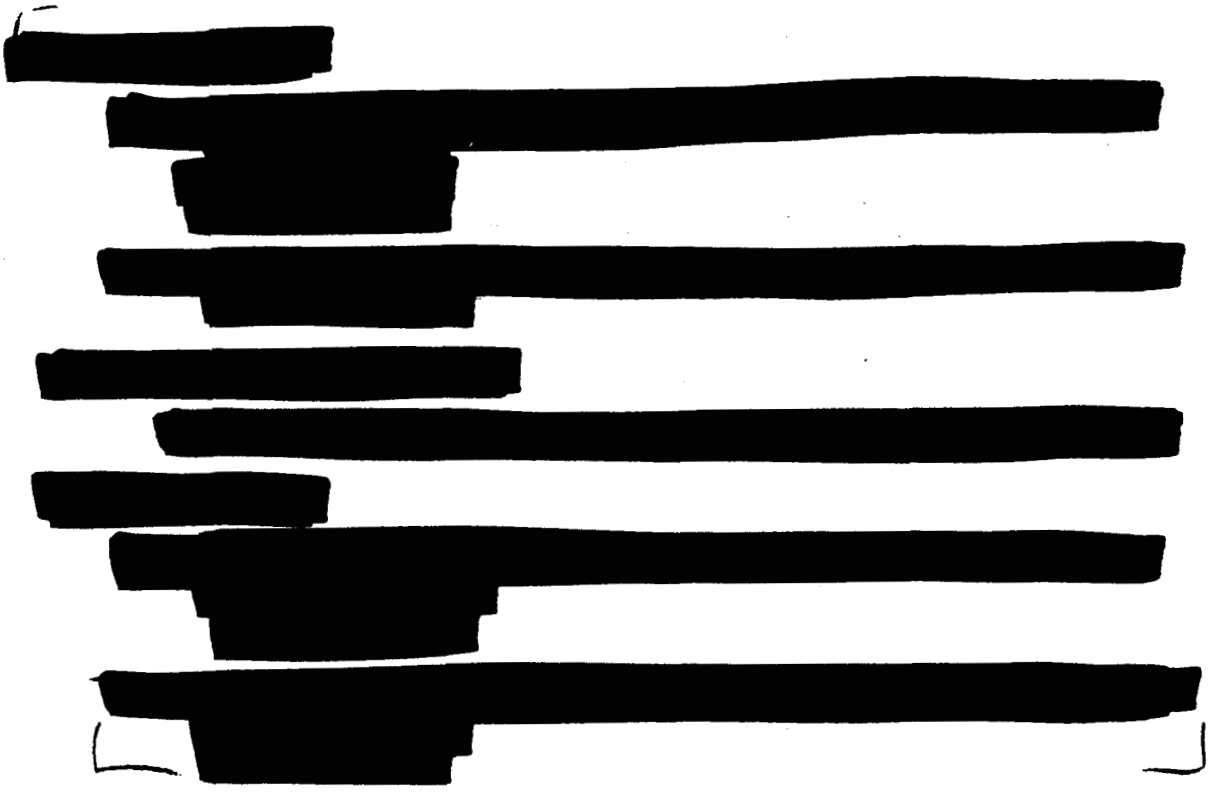
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3-6-7. Surveillance.

In response to complaints from organizations on the condition of weapons received, a program was initiated requiring that a complete functional surveillance inspection (FSI) and a final assembly be performed on each weapon before shipment. The study concerning complete functional surveillance inspections of the stockpile was approved, and the program was consequently put into effect; the program was completed before the end of the first half of the year.

In the second half-year, Special Weapons Regulation 132-1, "Calibration of Special Weapons Test Equipment", embodying the closed-loop system of calibration, was distributed. Implementation of this regulation was measured by the availability of calibration standards for use by the using organizations. Procurement had not yet been completed when the year ended.

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3-6-6. Stockpile Weapons for Training Use.

On 10 February 1953, an agreement between the Department of Defense and the Atomic Energy Commission, "AEC Weapons for Maneuver Use" was completed, and new procedures contained therein were implemented by the Commanding General, Field Command, AFSWP, and by the Santa Fe Operations Office of the Atomic Energy Commission. In order to provide planning information regarding maneuver requirements, the Chief of AFSWP requested the services, on 26 March 1953, to submit semi-annual forecasts to cover eighteen-month periods, beginning 1 January and 1 July. (Ref. 167, letter to the services, 26 March 53). Requirements for the first nine months were to be detailed, and for the remaining nine months, general, by types of weapons only. Under the new agreement, the Atomic Energy Commission was to authorize release of weapons for two quarters on approximately 1 January and 1 July of each year.

During the rest of the year 1953, weapons were maneuvered under the provisions of the maneuver agreement of 10 February 1953, between the Department of Defense and the Atomic Energy Commission, previously referred to. This agreement limited the use of war reserve weapons of the Atomic Energy Commission to one maneuver per stockpile life. As the year progressed, it became apparent that the maneuver rate of the Department of Defense was such that the policy of one maneuver per stockpile life was inadequate to fulfill the training requirements of the services. Two studies, one by Field Command, AFSWP, and the other by the Santa Fe Operations Office, AEC, called attention to this fact. The study by the Santa Fe Operations Office also pointed out that the damage to weapons as a result of maneuvers was much less than had been

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anticipated. Consequently, at the end of the year, Headquarters, AFSWP, was taking action to have the agreement amended to allow weapons to be maneuvered once per year instead of once per stockpile life.

3-6-9. Special Weapons Bulletins and Regulations.

During the first half of the year 1953, 164, and during the second half of the year, 41, Special Weapons Regulations and Special Weapons Bulletins were reviewed for approval by Headquarters, AFSWP, making a total of 205 of these documents for the year.

The attempt to provide the services with a publication which would place in a logical file system all available information on atomic weapons, which was the subject of a staff study in 1952, continued to be studied in 1953. As stated in the preceding volume of this History, agreement had been reached in principle among the services and the AFSWP, but there was disagreement over the method of implementation (see Vol V, par. 3-6-9). A solution to the problem, based on the AFSWP mission, "Preparing directives for Service Use", and a desire to adopt a better system, even without full service agreement, was planned.

On 28 September 1953, Headquarters, AFSWP, advised Field Command, by TWX message, that Special Weapons Bulletins and Special Weapons Regulations which did not involve policy could be printed and distributed without prior approval from Headquarders, AFSWP (Ref. 168). A monthly report of the bulletins and regulations so published was made to Headquarters, AFSWP; and the bulletins and regulations involving policy were to continue to be sent to Headquarters, AFSWP, for approval.

The three services and the Atomic Energy Commission agreed to the establishment of a Joint Publications Board (JPB) which was to

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eliminate eventually the need for service organizations to maintain files of Special Weapons Bulletins and Special Weapons Regulations, Sandia Corporation Manuals, etc., by combining into a single publications system that information which was required by any special weapons storage and assembly activity of a service. Although a standard format was to be used, each service would affix its own command line and its own file number according to its individual file numbering system. (Ref. 168, letter, Hq, AFSWP, to Field Command, 6 Nov 53, "Special Weapons Publications".)

The first meeting of the Joint Publications Board was held at Field Command, AFSWP, on 7 December 1953, and problems to be undertaken by the board were discussed. A meeting in January 1954 was scheduled, for further discussion in preparation for the board's assigned task.

On 16 December 1953, Headquarters, AFSWP, in response to a suggestion from the Navy, proposed to the Department of the Army and to Headquarters, USAF, that service publications covering their special weapons components - developed, produced, and stored by them - be published under the Joint Publications Board. Replies had not been received from these services when the year ended.

3-6-10. Emergency Transfer Plan.

During the first six months of 1953, no changes were made in the current procedures for emergency transfer, but preparations were made to include Site Jig in the notification channel of the AFSWP, in the same manner as national stockpile sites (NSS). A letter from the Chief of Naval Operations, dated 3 June 1953, gave a statement of the desires of the Navy and the reasons for delegating this control to the

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AFSWP. Headquarters, AFSWP, Operation Plan 1-53 was revised in July 1953, to include provisions for procedures of notification and release of weapons for Site Jig, and an expansion of emergency procedures in the event of disaster in the Washington or Albuquerque areas. The parallel plan of the Atomic Energy Commission was also revised. The Joint Chiefs of Staff approved a request of the AFSWP to provide a common reference hour, for the purpose of providing a common basic time for the integration of pickup schedules. This reference time, designated "P" hour, was established as 1200 Z for planning purposes. The services were directed to furnish the AFSWP with pickup schedules based on this procedure. (See also par. 3-6-5d(6) above.)

3-6-11. AFSWP Capability Report.

No new national stockpile sites (NSS) or AFSWP sites were activated during the year 1953.

A careful analysis of a maneuver held in Feburary 1953 resulted in revised assembly capacities for national stockpile sites. Formerly, the assembly of a total number of weapons for a single 24-hour period had been based upon Mark 6 weapons. No information existed on the effect which mixed types of weapons would have upon production rates, but it appeared that if weapons were process d in blocks of five there would be no effect upon the production rate. (See par. 3-6-5b above.)

During the fall of 1953, the AFSWP compared the capabilities of individual national stockpile sites with the requirements of the emergency war plan (EWP). It was noted that while all national stockpile sites were maintaining proficiency to produce assembled Mark [redacted]

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weapons at a given rate, the services had no current requirements for the pickup of assembled Mark 5 weapons at the sites. With the concurrence of the services, the capability to assemble Mark 5 weapons at a specified rate was deleted from the mission of the national stockpile sites. An assembly capability was thenceforth to be maintained, but at no specified rate. Similar action on the Mark 7 was expected to be taken early in 1954.

(See par. 3-6-5a for site capabilities.)

3-6-12. Future Storage.

The Working Group of the Joint Board on Future Storage was inactive during the first few months of 1953, until it convened on 29 April 1953, to consider problems connected with the storage of high-yield weapons. Matters to be resolved at subsequent meetings included: (1) the storage criteria for the Mark 18 and other high-yield weapons; (2) the construction required, through 1 July 1953, to provide storage facilities which would meet those criteria; (3) the funds which had to be included in the budgets for Fiscal Year 1955 and 1956, to provide the additional storage necessitated by the changes in storage criteria, programmed production, requirements stated by the Joint Chiefs of Staff, and operational requirements of the services.

Major W. T. White, USAF, of the Operations and Training Division, AFSWP, was appointed secretary to the Working Group of the Joint Board on Future Storage on 20 April 1953.

The Working Group convened in July 1953 to consider the problem of special criteria required for the storage of the Mark 18

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installed and activated. The Signal Corps Plant Engineering Agency supplied installation technicians. The Base Signal Field Maintenance Shop was installed and was capable of 4th echelon maintenance. It provided maintenance for all the AFSWP satellites. During the period January to June 1953 two DARAH Communication Plan tests of emergency communications facilities were implemented by the Commanding General, 2nd Army, over the emergency communications facilities of the AFSWP. The results of these tests were satisfactory. Redesignation of the AFSWP loop circuit 9308 placed [redacted] and Headquarters, AFSWP, on one circuit to Field Command, Sandia Base; it placed [redacted] on another circuit (9301) to Field Command.

The teletype message traffic handled by the Communications Center of AFSWP, from 1 July to 31 December 1953, amounted to a total of 14, 723 messages, and 1,634,906 word groups were received or transmitted over the electrical facilities.

Communications projects, totaling $176,390 for Headquarters, AFSWP, for Field Command, for the national stockpile sites, and for Site Love, were approved and forwarded for supply action, during the second half of the year. The approved projects consisted of radio teletype, teletypewriter, cryptographic, guard radio, telephone, cable and American District Telegraph (ADT) alarm equipment.

Two special cryptographic systems were put into operation within the AFSWP: (1) the Logistics Division, Headquarters, AFSWP, used a one-time pad [redacted], with the Kansas City Area Engineer; (2) all the AFSWP Stockpile Control Offices used a one-time tape mechanical cypher device [redacted] for transmission

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of information in critical categories.

During the second half of the year, two tests of emergency communications of the Department of the Army were implemented over the communications facilities of the AFSWP. The results of both tests were satisfactory.

In October 1953, requisitioning procedures for communications equipment and supplies were changed to decrease the time lag involved in supply procurement channels. The use of requisitioning Form DA 445, of the Department of the Army, was discontinued, and the use of military interdepartmental procurement requests (MIPR) was instituted. Items requested and not available within Signal Depot stocks were then purchased for the AFSWP through the local market.

The procedure for requesting assignment of radio frequencies for the AFSWP radio networks was changed. Previously, frequencies were assigned to the AFSWP by the Joint Communications Electronics Committee, of the Joint Chiefs of Staff. After the change, frequency assignments were furnished by the Chief Signal Officer, Department of the Army, directly to the AFSWP and were included in AFSWP communications projects.

The distinctive accounting symbol "ASW" was removed from the teletype messages of the AFSWP and the accounting symbol "DA" was substituted. This change was instituted to prevent analysis of teletype traffic originated by the AFSWP. A recent analysis of AFSWP messages by the National Security Agency had disclosed that the "ASW" accounting symbol made the AFSWP traffic too easy to identify. Further action was expected as a result of this analysis by the National Security Agency.

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3-6-14. Organization and Personnel.

Changes in the organization and functions of the Operations and Training Division, during the year 1953, have already been described (see par. 3-6-1 above); therefore, this paragraph will deal principally with the personnel of the division.

The personnel of the Operations and Training Division, and the positions they occupied, as of 31 December 1952, were recorded in the preceding volume of this History (see Vol. V, par. 3-6-14).

The following personnel changes occurred during the first half of the year 1953:

Commander Charles Blenman, Jr., USN, Chief of the Operations and Training Division, was promoted to the rank of Captain on 1 January 1953.

Dr. Karl F. Cerlein, Educational Specialist, who had been assigned to the Planning Branch, Weapons Defense Division, was re-assigned to the Training Branch, Operations and Training Division, on 1 April 1953, upon the discontinuance of the Weapons Defense Division.

Major Edward L. Miller, USAF, was transferred from the Plans and Requirements Division to the Operations and Training Division on 2 February 1953, and was assigned to duty in the Inspection, Storage and Surveillance Branch.

Major Altus E. Prince, USA, was designated as Program Director of the Observer Program during the UPSHOT-KNOTHOLE series of atomic tests in the spring of 1953.

Captain Edward E. Shelton, Sig[redacted], USA, reported for duty on 12 January 1953 and was assigned to the Training Branch of the

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Mrs. Anne Price resigned from Headquarters, AFSHP, on 15 May 1953.

Mrs. Enola Bainsford was transferred from the Adjutant General's Section to the Operations and Training Division on 18 May 1953 and was assigned duties as clerk-typist.

The functional organization of the Operations and Training Division as of 30 June 1953 was as follows:

Chief: Captain Charles Blenman, Jr., USN
Executive: Lt. Colonel Philip G. Krueger, USA

Training Branch: Commander F. E. Somers, USN
Major A. E. Price, USA
Captain E. E. Shelton, USA
Dr. K. F. Cerlein

Operations Branch: Lt. Colonel R. L. Bowen, USAF
Major W. T. White, USAF

Inspection, Storage and Surveillance Branch:
Lt. Colonel W. S. Matthews, USAF
Major E. L. Miller, USAF
Lieutenant P. H. McAfee, Jr., USN
Captain G. B. Keyes, USA

Communications Branch: Lieutenant George R. Morris, USA
WOJG C. W. Yetter, USA

Administrative Personnel:
Msgt. W. R. Kashner, USA
Msgt. H. C. James, USAF
Miss Emma G. Griffin
Mrs. Betty Perkins (Secretary to DCS/O)
Miss Eva Sauter
Mrs. Enola Bainsford

The following personnel changes occurred during the second half of the year 1953:

Lt. Colonel John D. Coke, USAF, replaced Lt. Colonel W. S. Matthews, USAF, on 16 September 1953, and became Chief of the Operations

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Branch.

WOJC C. W. Yetter, USA, was detached on 15 August 1953.

Msgt. W. R. Kashner, USA, was detached on 9 December 1954.

SFC Jack L. Phelps, USA, reported for temporary duty on 1 December 1953.

(SFC James J. Redling, USA, was scheduled to report on 11 January 1954.)

The functional organization and personnel of the Operations and Training Division as of 31 December 1953 were as follows:

Chief: Captain Charles Blenman, Jr., USN
Executive: Lt. Colonel Philip G. Krueger, USA

Training Branch: Commander F. E. Somers, USN
Major A. E. Prince, USA
Captain E. E. Shelton, USA
Dr. K. F. Cerlein

Operations Branch: Lt. Colonel J. D. Coke, USAF
Lt. Colonel R. L. Bowen, USAF
Major W. T. White, USAF
Major E. L. Miller, USAF
Lieutenant P. H. McAfee, USN
Captain G. B. Keyes, USA
Lieutenant G. R. Morris, USA
Msgt. H. C. James, USAF
SFC J. L. Phelps, USA

Administrative Personnel: Miss Emma G. Griffin
Mrs. Betty Perkins (Secretary to DCS/C)
Miss Eva Sauter
Mrs. Enola Bainsford

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FIRST HISTORY OF AFSWP 1947 - 1954

VOLUME 6 - 1953, CHAPTER 3 - HEADQUARTERS

SECTION 7 OF 14 SECTIONS

THIS SECTION DECLASSIFIED WITH
DELETIONS BY DNA, CHIEF, ISTS

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HISTORY OF AFSWP

VOLUME VI - 1953

CHAPTER 3. HEADQUARTERS

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VOLUME VI - CHAPTER 3

SECTION 7. WEAPONS DEVELOPMENT DIVISION

3-7-1. General.

The mission and responsibilities of the Weapons Development Division remained unchanged during the year 1953. (See Vol. I, par. 4-6-1; Vol. II, par. 3-6-1; Vol. III, par. 3-5-4; Vol. IV, par. 3-7-1; Vol. V, par. 3-7-1.)

On 21 March 1953, the Secretary of Defense and the Chairman, Atomic Energy Commission, signed "An Agreement Between the AEC and the DOD for the Development, Production and Standardization of Atomic Weapons". The signing of this agreement culminated many months of effort on the part of the Weapons Development Division. Pending the agreement, the Division had initiated correspondence with the three Services, requesting specific guidance as to AFSWP responsibilities in those programs in which the AEC and the DOD had joint interests and responsibilities. (Ref. 170.) The guidance furnished by the three Services resulted in a Service-coordinated letter from the Chief, AFSWP, to the Commanding General, Field Command, AFSWP, delineating the AFSWP responsibilities in such joint projects, and further indicating a requirement that the Field Command, AFSWP, be represented in every specific weapon committee. (Ref. 16.) Such a committee would include representatives from the cognizant Service development agency, Sandia Corporation or the Los Alamos Scientific Laboratory, and the Field Command, AFSWP.

3-7-2. Development of Implosion Bombs.

During the year 1953, no new implosion bombs were introduced

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into the development program. Activity was concerned with modifications and refinements of existing nominal-size bombs (60, 45, 30, and 22-inch). The Development Division actively supported simplification and standardization of weapons, the most notable result being the decision of the Military Liaison Committee, during the first half of the year 1953, to remove radar fuzing from the Mk 5, Mk 6 and Mk 13 bombs, and to substitute the simpler baro-contact fuzing (see par. 3-7-2a.). Other projects leading to simplified weapons were also initiated by the AEC and by the Services, at the suggestion of the Division. These projects included investigations of improved power sources, low energy detonators, improved weapon containers, and new test and handling equipment.

During the second half of the year there was no indication of any change in the family of implosion weapons other than the introduction by the Division, as a result of a JCS statement of a requirement for a small diameter atomic warhead, of proposed military characteristics for a 15-inch warhead. The trend in weapons development turned from the fission to the fusion, or "two stage" weapon type, and the Weapons Development Division was concerned primarily with obtaining continuous up-to-date information concerning these new weapons for transmittal to the Services. Details of the various programs will be found in the following subparagraphs.

a. Fuzing.

In January 1953, the Military Liaison Committee informed the Division of Military Application of the Atomic Energy Commission of its desire to eliminate the radar option from the Mk 5 and Mk 6 weapons

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fuzing systems, along with the provision of a safe separation timer. (Ref. /7/.) This action stemmed from a mounting conviction in the Services that the greater accuracy of the radar fuze as compared with that of the baro fuze did not result in any real gain in weapons effects, while the use of the radar fuze greatly increased the operational and logistical problems associated with weapons fuzing. The Development Division, AFSWP, worked closely with and assisted the MLC staff members in the preparation of the memorandum on fuzing objectives.

The Division of Military Application, AEC, sent to the MLC copies of a design proposal for the TX-5-X1 weapon. The fuzing system proposed for this weapon contained five options -- radar, baro-armed radar, baro, timer, and contact. The DMA requested MLC consideration and approval of this proposal. The Development Division, AFSWP, recommended very strongly that the MLC not accept either of the radar options or the timer option, but that it request only the baro and the contact options. The Air Force members of the MLC pressed very strongly for the inclusion of the timer option as well as the baro and the contact options, since the Air Force had under development a delivery system which would employ the low altitude bombing system (LABS) technique, and consequently would need a timer fuzing system. The Development Division recommended against this proposal on the grounds that delivery of the Mk 5 weapon in the F-101 aircraft would necessitate a complete new case for the Mk 5, and that, in the fuzing of the Mk 5, provisions should not be made to cover the delivery of what would be, in all essentials, a new atomic weapon. The matter was resolved with

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the MLC informing the DMA of its acceptance of the fuzing system as proposed, less the two radar options.

While the above decision on the fuzing system of the TX-5-X1 weapon was being made in Washington, the Field Command, AFSwP, in conjunction with Sandia Corporation, had prepared a proposal for fuze standardization. A Field Command study classified fuzing for atomic weapons in terms of the type of delivery -- in general, as strategic or tactical. On this basis, the Field Command and Sandia Corporation evolved a proposal (SC 2675 (TR)) that fuzing for the Mk 6, Mk 5, and TX-13 weapons should be based upon delivery from high altitude in level flight, and should contain only a baro option and a contact option. Field Command and Sandia Corporation further proposed that the fuzing of the Mk 7 and the TX-12 weapons be considered as the tactical type of fuzing, based upon dive bombing or toss bombing, and that the options available in these fuzes should be radar, timer, and contact. Implementation of this proposal to standardize fuzes for atomic weapons with the resultant gains in simplification of training and test equipment, would run counter to the expressed desire of the MLC for a timer option in the TX-5-X1 weapon. Inclusion of the timer option in the TX-5-X1 weapon would negate the only real advantage of fuzing standardization, since it had already been planned that the TX-13 weapon would employ the same fuzing system as the Mk 6, and since the standardization proposal called for no changes in the Mk 7 and the TX-12 fuzing design.

The Development Division, AFSWP, again recommended to

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the MLC the elimination of the timer option from the TX-5-X1, for the reasons previously advanced (see above). The Air Force position was unchanged. The MLC, after a great deal of discussion and after hearing a joint presentation by the Field Command, AFSWP, and Sandia Corporation, informed the DMA of its interim decision with respect to the fuze of the TX-5-X1, namely, that the TX-5-X1 fuzing system (radar, timer, and contact options) should be provided for the new production Mk 5 weapons until a final standard fuze should become available. In regard to fuze standardization, the MLC declined to make a final decision until a detailed proposal should be presented to it.

The Development Division made every effort to avoid this MLC interim decision. It would mean the substitution of a radar fuze in lieu of a baro fuze to achieve the air burst, in order to provide a timer option which could not be used by any of the Services for a period of at least two years.

The formal proposal for standardized fuzing (SC 2675 (TR)) was forwarded by the DMA to the MLC. (Ref. 172.) The position of the Development Division in regard to this proposal was to adopt the recommendation of the Special Weapons Development Board, i.e., a standard baro-contact fuze for the TX-6-X4, the Mk 13, and the Mk 5 weapons, and a standard fuze for the TX-7-X1 bomb, with the same fuze in a repackaged form available in the TX-12 bomb. With respect to the SWDB recommendation that a group should perform a long range study of standardized fuzing, the Development Division, AFSWP, recommended certain general goals to which the group might direct its attention. These long range

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goals would include provisions for operational use, by the substitution of components, of one or more primary fuzing systems, among which would be included timer, radar, baro, and contact.

The MLC expressed its desire that the Standard Fuze A (baro contact) should be incorporated in the TX-6-X4 and the TX-13 bombs, and in production Mk 5s, and should be retrofitted in all Mk 5s already in stockpile, as soon as practicable. The MLC did not delete, but delayed to a later date, the requirement for a primary timer fuze for the Mk 5 bomb. It stated that when a fuze should be required for the delivery of 39-inch warheads by fighter-type aircraft, the fuze would incorporate the timer feature and would be stockpiled in the required numbers. These actions and decisions of the MLC did not supersede the interim action in regard to the TX-5-X1, as described above. The MLC, further, supported the undertaking of a comprehensive long range study of standardized fuzing. (Ref. 73 .) The AFSWP was requested to organize such a study group.

The Weapons Development Division, AFSWP, prepared guidance for a long range study of standardized fuzing. This suggested guidance was forwarded to the Commanding General, Field Command. The forwarding letter informed Field Command that the Air Force desired direct representation in the study group, while the Army and Navy desired representation through Field Command, AFSWP. The scope of the study, as planned, would include fuzing of atomic weapons, both bombs and missiles, regardless of whether the responsibility for any given development rested with an AEC agency or a DOD agency. The desired end product of the study group would be a compendium of measures recommended

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for the simplification of fuzing systems, with their test equipment. This compendium would be furnished to the development agencies for their consideration in fuzing development responsibilities. It was suggested in the letter to Field Command that standardization was felt to be justified only when the cost of deviation from the optimum, in each particular case, could be shown to be fully balanced by the advantages of standardization obtained by such deviation. (Ref. 174.)

During the first six months of the year 1953, the DMA placed an order for the procurement and production of a large number of MC-3 radars. The Development Division, AFSWP, being informed unofficially of this order, and knowing that the MC-3 radar had not yet been evaluated, conducted a vigorous campaign to have the order held in abeyance for the four or five months necessary to evaluate the MC-3 radar. A study of radar requirements indicated that the total of MC-1 and MC-3 radars in stockpile by 30 June 1954 would considerably exceed the number necessary. This excess would result in large numbers of radars deteriorating in the stockpile, and would probably result in a money loss of several million dollars.

Major efforts of the Development Division during the second six months of the year 1953 were concentrated upon the development of fuzes "A" (Mk 13) and "B" (Mk 7 Mod 0), pursuant to the guidance plans drawn up for the study group. (See above.) Although already in stockpile, the baro fuze on Mk 6 Mod 4 and Mk 6 Mod 5 weapons had not proved to be completely satisfactory. A series of ten Air Force operational suitability tests conducted in the spring of 1953 showed a total

standard deviation of burst heights approximating the required 500 feet, but offset unpredictably above the desired burst height so that the standard deviation about the intended height of burst was 620 feet. The Air Force reported that test results indicated that burst heights based on baro fuzing were not currently of sufficient accuracy to be termed operationally suitable. (Ref. 175.) Analysis of these tests by Sandia Corporation, in the summer of 1953, indicated that the tables used for setting barometric fuzes were in error, primarily because the ratios of pressure measured by the pressure ambient at different speeds were derived from test data without attention to the altitude of the test. Sandia Corporation began correcting these tables, but, by the end of the year 1953, furnished only corrected extracts. This problem cast doubt on the advisability of baro fuzes, and brought out opinions favoring retention of radars in large weapons. The Development Division maintained its position favoring current fuzing objectives and the simplification promised by baros. The Chief, AFSWP, accepted this position, and encouraged additional drops by the Air Force to test baro fuzes at the earliest possible time, using corrected extracts from the baro tables. Four additional OST drops were conducted in November under "warm weather" conditions. Only one of the four was considerably outside of required limits. Ten more OSTs were scheduled for January 1954. In the meantime, the Development Division, AFSWP, notified the Services of the Mk 6 baro situation, with a view toward avoiding scrapping of baros without more tests. As of the close of the year 1953, contact fuzes desired for backup in fuze "A" were not in

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stockpile, but fuze "B" had begun to enter stockpile.

Several changes had been proposed for fuze "B". The Development Division studied the possibility of eliminating one of the two radars from the TX-7-X1 (Mk 7 Mod 0) weapon, with particular attention as to whether this change would effect simplification or would modify the reliability of the weapon. The problem was presented to the Navy and the Air Force, with a request for their desires and comments. The Division also notified the Army of the problem as it was related to the XW-7/CORPORAL warhead, and requested an estimate of the value of a baro fuze to the XW-7/CORPORAL. The Services indicated no definite need for this change, and, in view of no positive requirement, no such change was recommended by the DTSWP. More precise information was needed in regard to failure probabilities which would enable the Services to reach definite conclusions as to the desirability of change in the Mk 7 Mod 0 and the XW-12 weapons. The Development Division requested Field Command, DTSWP, to obtain such information.

Another change in fuze "B" was proposed by Sandia Corporation in SC-2834(TR). This publication included recommendations that an additional timer be included in fuze "B" to provide safe separation time when the timer option should be used for LABS- LOB* delivery. The DTSWP received these recommendations from the NLO for appropriate action. The Development Division prepared a reply from the DTSWP to the Division of Military Application, AEC, requesting that NLO incorporate the additional timer, as recommended by Sandia Corporation. (Ref. 176.) [redacted]

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* -- compound abbreviation for low altitude bombing system. Development Division believes LOB stands for Loft Bombing, but was the same meaning as LABS.

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Based on Sandia Corporation study SC-2999(TR), Sandia Corporation and Field Command, AFSWP, in cooperation, made similar recommendations toward simplification of fuze "B", basically by elimination of several of the current seven options. The Development Division as of the close of the year 1953, was awaiting Service desires in this matter. The key question was whether one pre-set safe separation timer would be adequate to assure safety with all aircraft and all types of delivery to be used. The AEC desired an answer as soon as possible, in order to coordinate the resulting changes, if any, with changes occasioned by addition of a second timer for safe separation.

On 24 July 1953, Sandia Corporation gave initial release to the Mk 3 Mod 0 radar. Great interest centered upon this radar because of long delay and much secrecy, because Mk 1 radars had been discontinued, and because liaison had indicated some doubt that Mk 3 radar would be an improvement. Immediately upon their release, a number of the Mk 3 Mod 0 radars were obtained by the Development Division of Field Command, AFSWP, which conducted brief but intensive environmental tests on them. Although there were a number of worries and test difficulties at first, the Mk 3 Mod 0 radar seemed to be basically satisfactory, and the AFSWP so informed the Services. (Ref. 177.)

The AFSWP held the opinion that the assignment of the "S" category to selected Mk 1 radars of special sensitivities was an unproductive administrative effort. The Development Division, AFSWP, sent a letter to the AEC through the MLC, recommending that the "S" category be retained, but that, in view of higher voltages of the NiCad battery and

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further tests on the Mk 1 radar, certain restrictions on the use of "Non-S" category radar be relaxed. (Ref. 178.) At the close of the year, the AEC had not yet agreed to a general increase in the angle restriction from 30° to 45° upon Mk 7 and Mk 12 weapons with the Mk 2 and Mk 3 power supplies, respectively, when equipped with "Non-S" Mk 1 radars. (Ref. 179.) After the improved dynamotor should have entered stockpile, the AEC would consider Mk 1 and Mk 3 radars interchangeable except in special circumstances.

As of the close of the year 1953, fuzes for missiles had almost as many variations as there were missile warhead installations. Baro fuzing had been under consideration for CORPORAL and REGULUS but had been rejected, for the time being, in CORPORAL. A new time fuze received some attention for HONEST JOHN. More concerning these problems will be found in paragraph 3-7-4, on missile warhead installations.

b. Mark 6.

The most significant action in the Mk 6 program during the first six months of 1953 was the adoption by the Services and the Military Liaison Committee of the AFSWP sponsored decision (initiated by the Development Division) to remove the radars from the Mk 6 weapon. The MLC specified a requirement for the addition of a safe separation timer with the elimination of the radars from the stockpile weapons. As a further refinement of the Mk 6 weapon, the MLC concurred in an AFSWP request that the plastic nose plates be eliminated from the Mk 6 program, in view of the elimination of the radars and the requirement for inclusion of a radar antenna in the nose of the weapon.

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Related to the Mk 6 program was the designation by the AEC of the weapon previously known as the TX-6-X2, as the TX-18. [redacted] (See par. 3-7-2c.)

During the latter half of the year, the Mk 6 program was continued in the production phase to meet the quantitative requirements stated by the JCS. Development activity was confined to fuzing and firing components, leading to a retrofit of the stockpile with the Mk 13 fuze.

c. Mark 18.

The Mark 18 entered stockpile in May 1953. This weapon incorporated [redacted] nuclear assembly designed to produce a yield of [redacted] Externally, the weapon had the same configuration as the Mk 6. It included the Mk 6 Mod 5 fuze, which had a baro airburst capability with an MC-73 timer used as a safe separation timer. All future improvements in the Mk 6 non-nuclear assembly (the TX-6-X4 program) were to be incorporated into the Mk 18 weapon. The standard fuze "A" would eventually be incorporated, therefore, in the Mk 18 weapon, to provide a baro airburst and contact fuze capability. During the latter half of the year 1953 the improved fuzing developed for the Mk 6 and TX-13 weapons, i.e., the Mk 13 fuze, was incorporated into the Mk 18 weapon.

d. TX-13.

The Weapons Development Division, AFSWP, continued to follow closely the progress made in the development of the TX-13 weapon by the AEC. On 22 January 1953 the AFSWP recommended to the MLC a

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modification of the basic military characteristics, deleting the requirement for removable lugs with 30-inch spacing to fit the S-4 Rack. The MLC concurred in this proposal, and the AEC was notified accordingly. On 1 May 1953 the MLC published a memorandum to the AEC which removed the requirement for nuclear retention in the TX-13 design, and requested that the AEC investigate the problem of inflight insertion in the high yield version of the TX-13 and advise the MLC of the feasibility of inflight insertion for that type of weapon. The removal of the requirement for nuclear retention was the result of a campaign by the Development Division, AFSWP, to simplify the basic design of the weapon by incorporating the simple rear linear inflight insertion gear in the basic warhead in order to fulfill the requirements for both bomb and missile warhead applications.

During the remainder of the year the development of the TX-13 proceeded satisfactorily. The changes resulting from the adoption of rear linear inflight insertion and of standard fuze "A" did, however, cause a slippage of the complete design release date from February 1954 to May 1954. The projected stockpile entry date remained at May 1955.

The predicted increased nuclear efficiency of the TX-13 was expected to result in higher yields for the various stockpiled cores than those set by the JCS requirements. As the design of the TX-13 nuclear system became more definite, and more accurate calculations could be made of the yields, the Services conferred as to whether the JCS should restate its yield requirements or the stockpiled cores should be refabricated. The Development Division recommended, and

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the Services accepted, the position taken by the Chief, AFSWP, that, because of the high cost involved in proportion to the advantages gained, there should be no refabrication program.

e. TX-20.

The TX-13 model with high yield [redacted] assembly was redesignated the TX-20. Early in the second half of the year 1953 the Division of Military Application, AEC, informed the MLC of the difficulties it was encountering in the design of automatic safing. The DMA proposed that AEC laboratories should engage in a six months study of automatic safing, pointing out that if such study should be successful, it could result in a first production unit of the TX-20 by August 1956, approximately one and one-half years after that of the standard TX-13 weapon. In case this proposal should not be acceptable to the Services, the DMA offered a counter proposal for a [redacted] TX-20 without in-flight nuclear pit safing. The Development Division, AFSWP, recommended that the Chief, AFSWP, advise the Services to concur in the proposal to conduct a six months feasibility study. The MLC agreed, and so informed the DMA.

Throughout the latter half of the year 1953, the Development Division urged consideration of a two-stage weapon such as [redacted] as the most feasible way of obtaining [redacted] with practical safing. This idea was proposed formally by the Division in a Summary Sheet of 19 October 1953 covering the MLC agenda item on the yield requirements of the TX-13 weapon. This idea was reflected by the MLC in a letter to the DMA, dated 22 October

1953, in which it was stated that, should test results be encouraging, requirements for the TX-15 [redacted] or similar types of weapons might be presumed as direct substitutes for TX-20 type weapons. (Ref. 180.)

f. Mark 5; TX-5-X1.

No significant changes were made in the basic Mk 5 Mod 0 weapon during the year 1953. The AEC, however, confirmed information that it was possible to provide a high yield [redacted] for the Mk 5, utilizing nuclear techniques similar to the Mk 18. The Development Division made informal presentations concerning the high yield [redacted] systems to representatives of the Services shortly after the requirement for a feasible study for a [redacted] had been expressed. [redacted] The AFSWP had felt, and continued to feel, that the high yield requirement for a weapon in this general range could most easily be met by establishing a requirement for a [redacted] for the Mk 5, if suitable nuclear safety provisions could be provided, rather than by use of [redacted]

The TX-5-X1 weapon continued to be developed in what constituted a major fuzing change in the basic weapon. Standardized fuze "A" would be installed, giving primary fuze options for baro-airburst and contact. (See par. 3-7-2a, above.) The complete design release for the TX-5-X1 was set for February 1954, with stockpile entry in January 1955.

g. XW-5/F-101.

The Air Force proceeded, during the latter half of the year 1953, with the development of a streamlined case and associated

components for the XW-5 warhead, through a contract with the Mc Donnell Aircraft Corporation of St. Louis. The requirement for this weapon system was established by the Joint Chiefs of Staff on 9 March 1953, with the objective of providing a weapon capable of carriage on the F-101 aircraft, with a minimum of performance penalty in the supersonic range. (Ref. /8/ .) Representatives of the Air Force and the Division of Military Application, AEC, agreed upon a proposed division of responsibilities for the various developments comprising this program, and on 9 September 1953, the Chairman, MLC, approved this division of responsibilites, and so informed the AEC, requesting the concurrence of the latter. By reply of 9 November 1953, the AEC concurred in the proposal, but stated that since production of a part of the atomic weapons system by the Air Force was involved, the final decision would have to await receipt of a Presidential Directive authorizing the Armed Forces to assume production responsibility for non-nuclear components of atomic weapons.

The Development Division, AFSWP, monitored this program, while Field Command, AFSWP, participated in the working group. A proposed stockpile-to-target sequence, with environmental criteria, was forwarded by the Development Division, in October 1953, to the interested Service agencies for their comments. It was expected that the initial ballistic shapes would be proof-tested from a B-47 by the Air Force, beginning in March 1954.

h. Mark 7.

By letter dated 30 March 1953 the Atomic Energy Commission informed the Military Liaison Committee that final approval

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had been given to the Mk 7 Mod 0-E and the Mk 7-Mod 1-E bombs. The Mk 7 Mod 1-E bomb was basically the same as the Mk 7 Mod 0-E, which entered stockpile in July 1952, with the exception that there were added, in the Mk 7 Mod 1-E, provisions for space heating during ground handling. A later modification provided for a rain erosion resistant coating on the radome, and modified the rear major mechanical assembly to permit rotation of the tail section in 15° increments, improving aircraft weapon compatibility.

Early in the year it became apparent that the Air Force could not supply the B-9 intervalvometers which were required to provide an interim low altitude bombing system (LABS) delivery capability on a limited number of the stockpile Mk 7 Mod 0 through Mod 2 weapons. Sandia Corporation was unsuccessful in procuring acceptable B-9 intervalvometers by direct contract, with the result that it was decided to substitute B-9A intervalvometers. Procurement of this type of intervalvometer was begun in April 1953. B-9A intervalvometers were included in kits supplied to field organizations for modification of the 100 weapons for the LABS emergency capability. The first of such kits were shipped in June, with the anticipation that the program would be completed by September 1953.

On 30 October 1953, the DMA informed the MLC that the Mk 7 Mod 3-E bomb and the Mk 7 Mod 0 fuze were released to the Department of Defense for operational suitability testing, training, and emergency use. This bomb-fuze combination had been developed as the TX-7-X1 development program.

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During the latter half of the year 1953, Sandia Corporation conducted a feasibility study of packaging Mk 7 components in a low fineness ratio case suitable for internal carriage in a bomb bay that might be accommodated in a fighter-bomber aircraft. On 10 November 1953 the Development Division sponsored a conference in Washington at which representatives of the three Services were briefed on this development, with the idea that it might offer a solution to supersonic bomb delivery problems.

i. TX-7-X1.

The TX-7-X1 entered stockpile in July 1953. This weapon model incorporated provisions for selection of primary contact, primary timer, or primary radar fuzing options. The baro sensing system of the Mk 7 Mods 0 through 2 was eliminated, as were the dive brakes. Provisions for use of the weapon with the LABS delivery were incorporated as part of the basic design.

The Development Division, AFSWP, continued to urge clarification of the requirement that radome deicing provisions be included in this weapon design. This requirement had previously been waived by the MLC, but had not been deleted. Consequently, the weapons designer was required to continue a certain measure of development on the radome deicing requirement. Finally, on 11 June 1953, the MLC informed the DMA that such a requirement was deleted.

j. TX-7-X2.

On 26 February 1953 the Division of Military Application, AEC, forwarded to the MLC the Sandia Corporation Report No. SC-2463(TR),

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"Proposed Ordnance Characteristics of the TX-7-X2 Weapon". The MLC considered these proposed ordnance characteristics, and on 26 March 1953 it recommended to the DMA that the proposed TX-7-X2 program be discontinued, but that development work on component improvements for the TX-7 weapons system should continue as in other current weapons programs.

k. TX-12.

The most significant action taken on the TX-12 program during the year 1953 was the cancellation of the Mk 12 Mod 0 or "soft shell" version, in May 1953. (Ref. 182.) As a result of this change, concentrated development effort on the TX-12-X1 was made possible, thus permitting the scheduling of this weapon for stockpile entry in November 1954. On 22 January 1953, the AFSWP had forwarded to the AEC a detailed specification for the TX-12-X1. This specification amplified the required military characteristics, and afforded detailed technical guidance, assembled for ready reference, for the weapons designer. As in the case of the TX-7-X1, the MLC action of 11 June 1953 also deleted any requirement for radome deicing for TX-12 weapons. (See par. 3-7-2i, above.)

l. BETTY (Atomic Depth Bomb).

On 13 April 1953 the Military Liaison Committee informed the Division of Military Application, AEC, that the Navy had adopted catalog designations for the atomic depth bomb, as follows: Bomb, depth, Mark 90 Mod 0; with warhead installation, XW-7/Mark 90 Mod 0. The nicknames ALIAS and BETTY were still used. (See Vol. IV, par. 4-5-3h(3)(d); Vol. V, par. 3-7-3h.)

The role of the AFSWP in the BETTY program was clarified

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by the Services, and appropriate guidance was furnished Field Command. (Ref. 16.) As of the close of the year 1953 it was expected that complete design release on BETTY would be made on schedule, 1 July 1954.

m. BOAR.

The proposed military characteristics for the air-launched atomic warhead rocket weapon system (BOAR) were received from the Chief of Naval Operations, coordinated with the Services, and forwarded by the AFSWP to the MLC on 3 July 1953. During the latter half of the year development on BOAR was somewhat behind schedule, as a result of difficulty in procurement of hardware. The complete design release was scheduled for September 1954. On 22 July 1953 the Military Liaison Committee approved the military characteristics of BOAR, and forwarded them to CNO for appropriate action, and to the AEC for information.

n. Atomic Demolition Munition.

(See Vol. V, par. 3-7-3j.)

(1) Project A.

The functions of the AFSWP in the development of Project A, Atomic Demolition Munition, were completed with the submission of descriptive literature and design drawings and specifications of the AFSWP -- Sandia Corporation Demolition Munition Control Box to the Department of the Army. The Department of the Army assumed responsibility for further production to meet the requirements of the military Services. During the second half of the year 1953, Field Command, AFSWP, with the cooperation of Sandia Corporation, prepared a modification proposal for the Project A XMC-341 Demolition Control Box to permit use of the box

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with the Mk 7 Mod 3 weapon and other weapons which would utilize the fast firing X-unit. This proposed modification was submitted to the Army, with the recommendation that the Ordnance Corps incorporate the modification in the M-22 control box.

On 5 February 1953, the AFSWP received a request from the Department of the Army to develop a remote radio detonating device for atomic demolition munitions to be adaptable to the Project A as well as to the Project B and C munitions. Accompanying the request was a detailed description of the device required. The AFSWP forwarded the military characteristics described, through the Department of the Air Force, to the Rome Air Development Center, where a project was initiated to develop the equipment required, with a target date for submission of initial prototypes set at 1 July 1953. Field Command, AFSWP, planned to field test the initial prototypes of the device, and to have certain counter-measures and environmental tests conducted by other developmental agencies in August 1953.

(2) Project B.

The Development Division, AFSWP, recommended that the TX-13 be substituted for the Mk 6 in the Atomic Demolition Munition program. Based upon a feasibility study conducted by Picatinny Arsenal, the Army notified the MLC that the Mk 7 weapon would be included in Project B, ADM program, and that the TX-12 weapon would be dropped from further consideration. The Development Division supported this position. By the end of the year 1953, however, there was a tendency on the part of both the Army Staff and the Division to question the feasibility of the

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Project B development because of the large size and unwieldiness of both the 60-inch and the 31-inch weapon when adapted for ADM use. The tendency was to favor expansion and retention of the inherently simple Project A control box with stockpiled versions of the Mk 6, Mk 5, Mk 7, and Mk 12 bombs.

(3) Project C.

The Department of the Army submitted to the AFSWP desired military characteristics for a new small size atomic weapon to fulfill certain Army requirements for demolition munitions. These military characteristics were to be forwarded to the MLC for appropriate action after coordination with Service staffs.

The Project C phase of the ADM program was reoriented to a considerable extent during the second half of the year 1953, as a result of the publication by the AEC of a feasibility study of small implosion devices in the 12 to 17-inch diameter range. Following a series of memoranda between the Chief, AFSWP (Development Division - authored), the Assistant to the Secretary of Defense (AE), and the Chairman, JCS, a decision was reached to direct the program toward development of a new small diameter atomic warhead for application in missiles, rockets, and torpedoes, as well as for demolition uses. To this end, a preliminary draft of military characteristics for a 15-inch diameter warhead was prepared by the Division and was forwarded to the Services for comment.

(4) Remote Radio Detonating Device for ADM.

A remote radio detonating device under development at the Rome Air Development Center received a preliminary system field

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test at Sandia Base in October. The test showed the system to be acceptable for the intended use, and the development was then directed toward a miniaturized version for test in the spring of 1954. The Development Division actively monitored the program at Rome Air Development Center, and as of the close of the year was engaged, with the Army, in drafting revised military characteristics for the remote radio detonating device. The Signal Corps Engineering Laboratories were furnished a model of the device as tested at Field Command, for electronic countermeasures evaluation and for comparison with a similar device under development by Evans Signal Laboratory, as requested by the Army.

In response to a letter from Headquarters, AFSWP, prepared by the Development Division, the Assistant Secretary of Defense for Atomic Energy authorized the expenditure of additional AFSWP funds, as required, to complete development and testing of the device to the point of furnishing production specifications to the Army. (Ref. 83.) The code word "Flashlight" was assigned this project.

o. [redacted]

[redacted]

[redacted]

[redacted]

During the latter half of 1953 the major developmental effort in the field of [redacted] initiators was made on the type known as "Experimental Neutron Source (ENS)". A developmental model of an ENS, having the approximate dimensions of 12 inches in diameter by 30 inches long, and weighing about 120 pounds, was found to have an adequate timing accuracy, sufficient neutron output, and general over-all reliability as a laboratory device. The AEC completed feasibility studies on the use of an ENS as a weapon initiator, but as of the end of the year the evaluation of the results had not been completed. Work on miniaturizing the ENS was begun, [redacted]

At their meeting on 15 December 1953 the Military Liaison Committee considered a request of the Division of Military Application, AEC, that they comment on a design proposal for [redacted] weapon based upon the use of the ENS device [redacted] The Development Division, AFSWP, was of the opinion that there was not adequate information available on how the adoption of the ENS would affect stockpile surveillance, logistics, and operational flexibility, to warrant approving a design proposal incorporating this device at the time. The Division took the position that, [redacted] a trend toward improving the

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simplicity and reliability of weapons was more desirable that the achievement [redacted] through introduction of devices whose basic nature was complicated. The MLC supported this line of reasoning, and commented accordingly in a letter to the Chairman, AEC. (Ref. 184.)

Experiments were conducted on a new type of [redacted] Since the experiments indicated that an external initiator with the necessary simplicity might be achieved through a device other than the ENS, the Development Division recommended that the AEC be questioned concerning the new type [redacted] and asked for estimates as to when they might become available. The MLC, however, did not act in this respect, with the result that the Division continued to follow the [redacted] program through normal liaison with Field Command, AFSWP, and Sandia Corporation.

p. Initiators.

A development program involving an initiator which would produce neutrons [redacted] was under way at Los Alamos Scientific Laboratory. Numerous experiments were conducted, using all types of implosion spheres. The outcome was an initiator [redacted]

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By letter dated 17 July 1953, the AEC notified the MLC that it proposed to proceed [redacted] in October 1953, subject to DOD concurrence. The Chairman, MLC, requested the Chief, AFSWP, to obtain Service views in regard to the AEC proposal, in order that they could be used as a basis upon which to make a recommendation to the Secretary of Defense. The Development Division urged Service concurrence in the position that, [redacted] were sufficient to warrant the start of such a replacement program. A Service coordinated letter from the Chief, AFSWP, advised the Chairman, MLC, of this position, to which the MLC agreed. Accordingly, the MLC informed the AEC, by letter dated 25 August 1953, that replacement [redacted] would start at once for some capsules, but would be delayed to 1 July 1954 for the others, subject to the economic considerations that no new expanded TOM production or new [redacted] program would be started. (Ref. 185.) As a result of further correspondence between the AEC and the DOD, this partial replacement program was modified to the end that all TOMs would be replaced [redacted]

As the year 1953 closed, investigations were being continued [redacted] Experiments involving variations

[redacted]

[redacted]

[redacted]

in the amount and geometrical arrangement [redacted]

q. Impact Resistant Implosion Warhead.

In a memorandum to its members on 28 July 1953, the MLC noted that the AEC had made little progress toward the basic objectives of the design of an implosion weapon to replace the gun-assembly type of penetrating bomb, and that the AEC had informally stated that the feasibility of such a weapon was doubtful. It was further noted that the Ordnance Corps had proposed to study the feasibility of such a weapon, but that there appeared to be little optimism concerning such feasibility. At the MLC meeting of 4 August 1953, the AFSWP took the stand that the facts as known (as noted above) did not warrant a continuation of this development project, and recommended that the Joint Chiefs of Staff be so advised, with a view toward cancelling the development requirement originally stated in December 1950. (See Vol. IV, par. 3-7-8k.) A memorandum was prepared in which the Joint Chiefs of Staff were asked to cancel the specific requirement for an impact resistant implosion warhead, while retaining and re-emphasizing the basic objectives for a weapon to engage more efficiently sub-surface targets. By memorandum of 19 November 1953, the MLC informed the AEC that the JCS considered the basic objectives of the program were sound and should be pursued, but that the formal development requirement for an impact resistant implosion warhead was withdrawn. (Ref. 186.)

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r. [redacted] (TX-15).

In the latter half of the year 1953 there was considerable activity shown by the AEC in the development of the TX-15, [redacted] Revision of earlier calculations by the Los Alamos Scientific Laboratory resulted in a full development program within the AEC to provide a [redacted] ready for test in Operation CASTLE (spring of 1954) with stockpile entry for the weapon in July 1955. In an effort to furnish guidance for the AEC, the Services were questioned by the Development Division, AFSWP, as to the need for parachute retardation for the TX-15. As of the end of the year 1953, there had been no formal request by the Department of Defense for the development of [redacted] The Joint Chiefs of Staff, however, were preparing guidance for the AEC in regard to the desired general characteristics for four classes (by weight and yield) of thermonuclear weapons, one class of which might be fulfilled by a TX-15.

3-7-3. Development of Gun-Assembled Weapons.

During the year 1953 the Armed Forces Special Weapons Project took no further action in regard to the standardization or acceptability of the Mk 8 and the Mk 9 by the military, as a result of the transfer of the responsibilities for development and production of gun-assembled weapons in general from the Atomic Energy Commission to the Department of Defense. The AFSWP took a strong position, however, concerning participation in further development of the Mk 9. (See par. 3-7-3b.) Responsibility for further development and production of the TX-11 was assigned to the Navy Department (see Vol. V, par. 3-7-4c) but

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the Chief of Naval Operations indicated that the AFSWP would participate in the joint AEC-DOD committee for its development. Throughout the year, the Development Division, AFSWP, continued active support of the AFSWP position for membership and participation in the joint committees responsible for development of the TX-11, the TX-19, the 16-inch shell, and the 8-inch shell. The last three listed were assigned to the ACORN Committee, whose membership consisted of representatives from Los Alamos Scientific Laboratory; Field Command, AFSWP; and the Ordnance Corps, US Army, with representatives of the Bureau of Ordnance, US Navy, included in connection with the 16-inch shell project. The TX-11 was assigned to the ASPEN Committee, whose membership was comprised of representatives from LASL; FC, AFSWP; and BuORD. Developments which concerned specific weapons of the gun-assembled group will be shown in the subparagraphs below.

a. Mark 8.

Minor developmental activity on the Mk 8 bomb continued, in an effort to eliminate the undesirable environmental characteristics and water leakage. In a memorandum from the MLC to the DMA, AEC, dated 3 March 1953, it was stated "... it is believed major redesign efforts required to approach or meet extreme environmental criteria should be directed toward the TX-11 as a replacement for the Mark 8 Mod 0 weapon." The AEC gave the Mk 8 Mod 1-ZZ bomb a general release with no restrictions on its ultimate use other than design limitations indicated in Sandia Corporation reports, SC-2102, dated 25 April 1952, and SC-2231, dated 20 November 1952. The activity of the Development Division, AFSWP, in this program was limited to the usual liaison functions which would maintain a flow of information to the Services.

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b. Mark 9.

Mk 9 Mod 0 and PM 9 shells were in stockpile in 1953, and developmental activity was concerned principally with those modifications to be included in the subsequent model of the shell, to be designated TX-19. The formal acceptance of the Mk 9 by the Department of the Army was held in abeyance pending analysis of the full-scale shot on 25 May 1953, and completion of Army staff action to standardize the weapon. As the year ended, the Mk 9 was generally considered to have passed the developmental stage, although the Army had not, as yet, taken active measures to standardize the Mk 9 Mod 0.

A joint AEC-DOD committee was established to monitor the further development and production of atomic artillery shells. The first meeting of this committee, known as the ACORN Committee, was held at Los Alamos in April 1953, and resulted in a charter for the committee, which included only Los Alamos Scientific Laboratory and the Chief of Ordnance (Army) as principals, excluding the AFSWP as either a principal or an observer. The Development Division, AFSWP, made representations to the Services concerning the need for full participation by the AFSWP on this and similar committees. The AFSWP position on this matter was concurred in by the three Services and by the Division of Military Application, AEC. Later in the year the membership on the ACORN Committee was increased to include not only the Field Command, AFSWP, but as stated above, representation from the Navy's Bureau of Ordnance in connection with the 16-inch shell.

c. Eight-inch Atomic Artillery Shell.

By SM-4780-53 of 9 March 1953, the Joint Chiefs of Staff

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stated a requirement for the development of an 8-inch atomic artillery shell, and requested advice on the practicability of meeting a target date of 1 January 1955 for completion of development. Shortly after the 9 March statement, the JCS modified the requirement to include the investigation of materials [redacted] as the fissionable material. By memorandum of 9 June 1953, the Chairman, Military Liaison Committee, notified the JCS that the Atomic Energy Commission was holding in abeyance the development requirement for the 8-inch shell while a joint AEC-DOD Technical Survey Group was being established to study the whole problem of a small diameter weapon and to make appropriate recommendations to both the AEC and the MLC. Captain Robert S. Riddell, USN, of the Development Division, represented the AFSWP as an observer in this survey group.

By memorandum dated 27 August 1953 the joint AEC-DOD Technical Survey Group on Small Diameter Atomic Weapons recommended development of the 240-pound, 8-inch projectile, using U^{235}. An MLC letter dated 7 October 1953 concurred in this recommendation and further recommended that the AEC establish a specific project for the development of such a projectile in order that the JCS requirement might be met.

The approved Department of the Army military characteristics for the 8-inch shell were received by the AFSWP early in December 1953. They were reviewed by the Development Division and submitted to the Services for coordination. Picatinny Arsenal proceeded with the development of the non-nuclear components of the 8-inch shell.

d. TX-11.

The AEC was initially responsible for the development

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of the TX-11, while the Bureau of Ordnance, Navy Department, acted as prime contractor. In February 1953, the AEC, in accordance with a directive of the President, authorized the Navy to develop and produce such nonnuclear components of the TX-11 weapon as might be agreed upon mutually by the AEC and the Department of the Navy. (Ref. /87.) The AEC and the Department of the Navy reached preliminary agreement, and by the end of the year 1953, BuOrd was assuming the responsibility for the nonnuclear components of the TX-11. The AFSWP continued to report to the Services the progress on the development of the weapon. The Services, at the request of the AFSWP, agreed to accept 146 inches as the length of the TX-11. This agreement made possible the completion of the design of the aerodynamic shape.

During the latter half of the year 1953, the Development Division prepared a letter from Headquarters, AFSWP, requesting the Division of Military Application, AEC, to provide specific details [redacted] contemplated for the TX-11 in order to permit a determination of [redacted] costs, and related problems, to the end that the Services might weigh the advantages and disadvantages [redacted] In reply, the DMA, by letter to the MLC, dated 30 October 1953, presented the technical aspects [redacted] including nuclear component interchangeability and posed certain questions relative to the desired DOD course of action. It was concluded tha[redacted] nuclear projectile was feasible at a relatively small cost; that the projectile could also be used in the Mk 8, Mk 9, and TX-19 weapons, with

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minor non-nuclear component changes; and [redacted] impose no significant additional operational limitations.

A joint committee, the Aspen Committee, with representatives from BuOrd; FC, AFSWP; and the AEC, was formed on 29 October 1953, to coordinate development of the TX-11.

e. TX-19.

The improved light-weight 280 mm shell, the TX-19, was under active development during 1953, under direction of the Acorn Committee. The Development Division was in touch with this project through the Field Command members of the Acorn Committee, and through Picatinny Arsenal.

f. Sixteen-inch Atomic Shell (Katie).

Development of a 16-inch atomic shell for use by the Navy was stated as a requirement by the JCS. The Acorn Committee was designated to monitor the development of the shell, which would use the nonnuclear components of the Mk 9 to the maximum extent possible. This 16-inch atomic shell project, known as Katie, was instituted late in the year 1953, and the activity of the Development Division in this connection was confined to keeping abreast of its progress through Field Command representation on the Acorn Committee and through review of the basic correspondence under which the project was initiated.

3-7-4. Missile Warhead Installations.

a. General Development Trends.

The long awaited reply from the AEC to the memorandum of 7 August 1952 from the Chairman, MLC, concerning the division of

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responsibilities for the development and procurement of adaption kits for missile atomic warhead installations (see Vol. V, par. 3-7-5a) was forthcoming on 22 January 1953. (Ref. 188.) In brief, the reply agreed with the definitions of "warhead", "warhead installation", and "adaption kit", as set forth in the MLC memorandum. (See Vol. IV, par. 4-5-3f(1); Vol. V, par. 2-3k; par. 3-7-5a.) The AEC also concurred in the DOD-proposed division of responsibility which assigned the development and procurement of adaption kits for the XW-5/REGULUS, XW-5/P-61 (MATADOR), XW-7/CORPORAL, XW-7/HONEST JOHN, and XW-8/REGULUS to the AEC, and the remainder of the warhead installation adaption kits to the cognizant Services. With this concurrence of the AEC in the AFSWP-initiated proposal, the missile-warhead program took a long step forward. On 13 May 1953, the Joint Chiefs of Staff, by memorandum to the Chairman, MLC, proposed that the responsibility for development and production of adaption kits for all missiles, including the above exceptions, be assigned to the Department of Defense as of 1 July 1954, and that bomb to warhead conversion components remain a responsibility of the AEC.

This JCS proposal was partially accepted by the AEC in a memorandum to the MLC on 16 October 1953. On 9 November 1953 the Chairman, MLC, informed the Chairman, AEC, that further changes were considered necessary; the AEC accepted these changes by a memorandum dated 16 December 1953. A summary of the agreement reached with the AEC was presented by the Chairman, MLC, to the Secretary, JCS, on 18 December 1953. (Ref. 189.) Essentially, the AEC-DOD agreement specified that: (1) the DOD would assume development responsibility for new fuzing designs, while the AEC would

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retain development and improvement responsibility for interim fuzing, incorporating improvements over the initial interim designs as might be required, until the DOD development program should produce a satisfactory new fuze; (2) the DOD would assume procurement responsibility for all adaption kits, starting 1 July 1954, but would depend upon the AEC as a source for AEC-developed adaption kits; (3) the requirements for the period after 30 June 1954 would be coordinated through the AFSWP; (4) the DOD would assume fiscal responsibility for new fuzing designs, and, starting 1 July 1954, for all military production, while the AEC would retain responsibility for interim fuzing development and the improvements thereto, with fiscal arrangements for the AEC-produced items to be handled directly between the AEC and the appropriate Service; and (5) the AEC would have fiscal, development, and production responsibility for all conversion components, while the DOD would state its requirement for such components as a part of the annual statement of military requirements for atomic weapons.

In order to resolve a problem attendant upon this division of responsibility, letters were sent to the Chief of Naval Operations, the Army Assistant Chief of Staff (G-4), and the Air Force Deputy Chief of Staff for Development, outlining the history and methods of effecting liaison between the DOD and the AEC, and requesting that each of the Services instruct Headquarters, AFSWP, in regard to the future liaison mission to be performed by the AFSWP in the field of guided missiles, the atomic airborne rocket (BOAR), the HONEST JOHN rocket, the atomic demolition munition (BAREBONES), the atomic artillery shell, the impact-

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[redacted]

resistant implosion warhead, and the thermonuclear bomb (TX-14). In general, the replies of the three Services stated that they desired to proceed with the actual development of some of the components, to co-operate with the AEC in joint AEC and Service developed programs, and to provide technical guidance to the AEC on components being developed by the AEC for the Services. In addition, the replies stated that the AFSWP should provide the guidance on the warhead portions of programs, should keep abreast of all warhead installations programs, and should remain responsible for solving, in an equitable manner, priority problems arising between projects of interest to two or more Services. On 7 May 1953 a conference was held by the Chief, AFSWP, with representatives of the Services, for the purpose of discussing the liaison problem, in general, in the missile-warhead projects, and the proposed course of action of the AFSWP, in regard to the same.

All phases of the transition to divided responsibility between the AEC and the Services in the missile-warhead programs progressed satisfactorily and with comparative smoothness. One major problem remained, in that the AEC legal staff maintained that the Atomic Energy Act of 1946 prohibited the AEC from authorizing DOD assumption of responsibility for the production of atomic weapon components in any case without a directive from the President. The AFSWP took the position that blanket authority should be obtained from the President, to cover all cases of delegation or transfer of such responsibility.

In the matter of interchangeability of bombs to warheads

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and vice versa, the year 1952 had ended with the MLC forwarding to the JCS a memorandum containing certain recommendations.(Ref. 190.) In order that the Army, Navy, and Air Force might better assist the JCS in establishing requirements for bomb to missile warhead conversion components (B/MWH CCs) and adaption kits (AKs) for missile warhead installations, the Development Division, AFSWP, requested from Field Command, AFSWP, lists of such components and kits, and their costs, for the XW-7/Corporal and Honest John, and for XW-5/Matador and Regulus. In March 1953 there arrived from Field Command the results of an extensive study on the subject. This report was forwarded to the Services, where it was well received. Subsequent stated requirements of the JCS for missile warheads were in terms of B/MWH CCs.

As a further result of the concurrence of the AEC in the DOD-proposed division of responsibility, the Development Division, in March 1953, requested the Commanding General, Field Command, to prepare military characteristics for universal warheads of the XW-5, XW-7, XW-12, and XW-13 types. Inasmuch as military characteristics in the desired format for an XW-8 warhead had just been coordinated and sent to the MLC, it was not believed necessary to revise these. (See par. 3-7-4e, below.) It was desirable to have military characteristics prepared, since the existing military and technical characteristics contained information pertaining to the adaption kits as well as to the warhead. For the first time it was also requested that the Field Command informally coordinate these new military characteristics with the appropriate field development agencies of the Services before forwarding them to Headquarters, AFSWP, for formal coordination. It was believed

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that this course of action would result in an over-all expediting of the military characteristics to the Division of Military Application, AEC.

As a result of the Joint Air Defense Board Report, dated 14 January 1953, coupled with the intense interest of each of the three Services in atomic weapons for Air Defense and with the AEC's expressed need for guidance in connection with low yield warheads, the Development Division recommended to the Chairman of the Military Liaison Committee, in June 1953, that the AEC be asked to develop a new set of pit and core combinations for the XW-7 and XW-12 warheads, designed for nominal yield [redacted] at minimum cost in fissionable material, for possible use in antiaircraft missiles. A memorandum was dispatched by the MLC to the AEC on 19 June 1953 requesting that the AEC provide the MLC with design proposals for optimum cores and pits giving yields of [redacted] in the 22-inch and 30-inch geometries.

One of the most significant accomplishments of the second half of the year 1953 was the establishment of requirements by the JCS for new antiaircraft atomic warheads, and the drafting of military characteristics for these warheads. This achievement was, at least in part, a result of efforts made by the Development Division in the presentation of the need of such a development program and in furnishing guidance to the Services in cooperation with the Weapons Effects and the Plans Divisions of Headquarters, AFSWP.

The AFSWP completed a staff study on the desired characteristics of air defense warheads. A major contribution was

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made by the Development Division to this study, which included AEC design proposals for optimum cores and pits giving yields o[redacted] in 22-inch and 30-inch implosion geometries; the possible adaption of current warheads for the air defense purpose; and the weapons effects phenomena governing the yield selection. The conclusions reached were that the Xw-7 and Xw-12 warheads, as currently conceived, were not considered satisfactory for use with air defense weapons other than on an interim basis, and would have to be modified even for such application; that there was an urgent need for optimum warheads in the 22-inch and 30-inch geometries with a yield in th[redacted]range; that easy interchangeability of nuclear material should not be a requirement; and that future high altitude tests should be conducted concurrently with the development of the new warheads. AFSWP recommendations were that the JCS should establish a requirement for antiaircraft atomic warheads of 22-inch and 30-inch geometries that would possess immediate readiness capability, achieve maximum economy, and provide a yield[redacted] The MLC concurred in this AFSWP report, after a yield[redacted] had been specified also for the F-99 (BOMARC) application of the 22-inch warhead, and forwarded it to the JCS on 12 November 1953.

A subsequent effects study by Allied Research Associates, Inc., concluded that the gust envelopes in current use were not suitable for determining the aircraft kill probability for low yield weapons. Much concern was evidenced in the AFSWP over this conclusion. Careful review of the problem indicated that [redacted] yield requirement, as set

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forth in the AFSWP report, was the best estimate that could be made at the time, but that doubt existed in regard to the [redacted] yield. By memorandum dated 15 December 1953, the AFSWP advised the MLC of these findings, and recommended that the statement of antiaircraft atomic warhead development requirements to the AEC should not be withdrawn or delayed pending more elaborate study on the [redacted] yield requirement.

On 30 December 1953, the JCS determined that a requirement existed for new antiaircraft atomic warheads of 22-inch diameter having respective yields of [redacted] and for one of 30-inch diameter having a yield of [redacted] The general characteristics specified for these new warheads were those recommended in the AFSWP report.

The accepted definitions of the terms "warhead" and "adaption kit" remained unchanged. (See Vol. V, par. 2-3k, 3-7-5a.) A proposal was made, however, by the AEC to the MLC on 14 September 1953, that modification of the currently accepted terms "bomb to missile warhead conversion components (B/MWH CC)" and "missile warhead to bomb conversion components (MWH/B CC)" be made by deleting the word "missile" from the terms and the letters "M" and "H" from the abbreviation. Since warheads would have application beyond that of missiles, the Development Division recommended concurrence, and the Chief, AFSWP, recommended to the MLC acceptance of the requested change. The change in terms was agreed to by the Chairman, MLC, in a memorandum to the AEC on 22 October 1953.

During the second half of the year 1953 there was considerable discussion by Sandia Corporation and Field Command and

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lines, giving a brief description of the devices for preliminary planning purposes, and pointing out that a considerable change could be expected before the basic warhead would become stabilized. On 31 December 1953, the Secretary of the Navy requested that the Secretary of Defense approve a feasibility study of the [redacted] devices for the supersonic REGULUS II and TRITON missiles. On 15 December 1953, the Department of the Army, through the Joint Chiefs of Staff, expressed a requirement for the [redacted] device as a warhead for the REDSTONE missile. By these separate actions the Services expressed interest in a program for high yield missile warheads. This interest was expected to stimulate additional AEC activity toward achieving such an objective. Significant progress might be made in extending the range and effectiveness of many missile systems under development, through employment of light-weight, small, high yield warheads weighing approximately 3000 pounds.

Thrcughout the year 1953, much emphasis and activity of the Development Division was directed toward achieving the universal warhead concept -- the interchangeability of warheads between missiles and bombs using the same size implosion or gun-type systems. (Ref./9/.) Accounts of some of the accomplishments of Sandia Corporation in this field will be found in the subparagraphs below, on specific warheads in - stallations.

b. XW-5 Warhead Installations.

The warhead developed for the REGULUS and B-61 (MATADOR) warhead installations was essentially the same as that in the TX-5-X1 (Mk 5 Mod 1) bomb, and was known as the Mk 5 Mod 0 warhead, scheduled

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for stockpile in June 1954. Efforts were directed toward development of a standardized XW-5-X1 warhead for current and future warhead applications of this size. Since the XW-5-X1 warhead program was geared to the B-63 (RASCAL) missile program, the warhead complete design release was scheduled for October 1954, with stockpile entry in January 1956. The adaption kits for REGULUS and the B-61 (MATADOR) remained an AEC responsibility , whereas adaption kits for other missiles authorized to carry the XW-5 warhead were a development responsibility of the cognizant Service in each case.

XW-5/REGULUS.

The XW-5/REGULUS warhead installation was given a design release in September 1953. The status at design release was contained in Sandia Corporation report SC-2980 (TR). The first production of the Mk 5 Mod 0/REGULUS warhead installation (WHI) was scheduled for delivery in March 1954. Investigations concluded by Sandia Corporation in October indicated the technical feasibility of operation of this WHI at altitudes up to 40,000 feet. The Division of Military Application, AEC, approved the request of the Bureau of Aeronautics, Department of the Navy, that the AEC undertake development of a baro fuze for the XW-5/REGULUS WHI and that the AEC also provide funds for this development to its completion. This was, in fact, a new fuze which would become a DOD responsibility in accordance with the AEC-DOD agreement concerning certain guided missile and rocket fuzing responsibilities. (Ref. 189.) Since there were not enough of the REGULUS flight test missiles remaining to test both the new barometric

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fuzing and the MC-3 radar fuzing system which was to replace the MC-1 system used in the design-released WHI, the AEC informed the Bureau of Aeronautics that the Mk 5 Mod 0/REGULUS WHI would not have an MC-3 radar fuze capability. On 25 November 1953 the REGULUS was launched from the submarine TUNNY, just off shore from the Naval Air Missile Test Center at Point Mugu, California, and impacted near Saint Nicolas Island. The TUNNY had been designed to carry two REGULUS missiles and the necessary warhead installation checkout equipment.

XW-5/B-61A (MATADOR)

The first flight test of the XW-5/B-61 was flown on 19 December 1952. (See Vol. V, par. 3-7-5b(2).) The test did not turn out as successfully as had been indicated at first. Between 1 January and 1 April 1953, six additional tests were flown. None was successful, because of vehicle failure in each case. In February, after four unsuccessful flights, the Development Division informally recommended that the Air Force re-evaluate this test program to see if it would not be wiser to halt the tests until the vehicle problems could be worked out. The Air Force, however, did not agree. On 8 April 1953, the DMA, AEC, notified Sandia Corporation that the tests should be postponed. As of 30 June 1953, the XW-5/B-61A flight tests were at a standstill, pending modification of the vehicle to halt structural break-up in the terminal drive. The flight tests were resumed on 23 September, after two modified vehicles had demonstrated an apparent solution to the difficulty. As of 31 December 1953, five flight tests had been made, of which three were believed to have been successful. The

complete design release date for this warhead installation was set as February 1954, with a stockpile entry date of March 1955.

XW-5/XB-63 (RASCAL)

The problem as to who would have the responsibility for the development of the XW-5/XB-63 adaption kit was finally resolved by the AEC on 22 January 1953. (Ref. 188.) Sandia Corporation proceeded with the development of the warhead, and Bell Aircraft Company, with the adaption kit. The XB-63 was to be the first vehicle to carry the universal warhead, Xw-5-X1. As of 31 December 1953, the complete design release date was scheduled for October 1954, with a stockpile entry date of January 1956.

XW-5/HERMES A-3B, HERMES C-1.

On 18 September 1953, the Chairman, MLC, informed the Chairman, AEC, that the requirement for an atomic warhead installation for the HERMES guided missile was withdrawn. The HERMES C-1 program had been deleted earlier. (Ref. 192.) The HERMES A-3B had been expected to carry the XW-5 warhead to a range of 90 miles. The Department of the Army planned to continue to use the HERMES missile as a research vehicle for obtaining guidance and propulsion information.

XW-5/RIGEL.

On 22 July 1953, the Secretary of Defense approved a request of the Department of the Navy to cancel the tactical guided missile RIGEL, which was planned to carry the XW-5 atomic warhead. On 18 September 1953, the Chairman, MLC, informed the Chairman, AEC, that the requirement for an atomic warhead installation for RIGEL was withdrawn. (Ref. 193.)

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c. XW-7 Warhead Installations.

The Mk 7 warhead, to be used in various missile systems, entered stockpile in September 1953. The first of these warheads were for use in operational suitability tests. Warheads for war reserve were to be stockpiled in accordance with the ready bomb availability program, approved by the JCS, which called for stockpiling as ready bombs and bomb to warhead conversion components (B/WCC). Efforts were devoted to development of a universal type XW-7-X2 warhead which would be interchangeable among the missiles CORPORAL, HONEST JOHN, BETTY, BOAR, and NIKE B, as well as in other missile and bomb applications. Most of the components to be used in this warhead had already been released for production. The complete design release for the XW-7-X2 was, however, dependent upon the release for production of the last component, probably the new IFI. Replacement of the MC-44 IFI in the Mk 7 with the XlMC-44 would provide a dual motor drive and improved shock resistance design, so that greater reliability and speed of operation would be insured. Of the three missile systems currently scheduled to carry the Mk 7 warhead installation, the adaption kits for two, the HONEST JOHN and the CORPORAL, were assigned to Sandia Corporation for development, while the adaption kit for the NIKE B warhead installation became, in accordance with the AEC-DOD agreement, a responsibility of the Army. (Ref. 189.)

XW-7/CORPORAL.

The CORPORAL development program made rapid progress during the early months of 1953. As of 30 June, ten additional flight tests, only one of which was not successful, brought the total of such

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tests of this warhead system to twenty-five. The first production unit was delivered in June 1953, with stockpile entry in September 1953.

[redacted] The Assistant Chief of Staff, G-3, instituted action within the Army to provide the necessary protection to the Mk 7 warhead installations to obtain the desired [redacted] storage until such time as the warhead could meet the Army requirement.

Even though the Mk 7 Corporal warhead and ancillary equipment were in production and stockpile, testing and evaluation continued. An improvement to the current baro-armed fuze for the XW-7/CORPORAL warhead installation was proposed by Sandia Corporation. The proposed change would consist of substituting a baro fuze for the currently used baro-armed radar fuze. The Development Division assisted representatives of the Department of the Army in evaluating this proposed baro system. On 17 December 1953, the Department of the Army notified the Chief, AFSWP, that the current dual radar fuzing system should be retained for the XW-7/CORPORAL, pending completion of an investigation by the Army of an improved radar fuze under development by the Diamond Fuzing Laboratory.

XW-7/HONEST JOHN.

Between 1 January and 30 June 1953, nine more system flight tests of the XW-7/HONEST JOHN were made, bringing the

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total to twelve, all of which were successful. The storage problem for the XW-7/CORPORAL (see above) applied equally to the XW-7/HONEST JOHN. The first production unit of the latter was received in September 1953, and in November the Chairman, MLC, was advised that the HONEST JOHN Complement, Major Assembly Mk 7 Mod 0, was released for operational suitability tests, training, and emergency use. During the latter half of the year 1953 modifications of the HONEST JOHN WHI were proposed by Sandia Corporation. These modifications involved removal of the X-unit and inverters from the Mk 7 Mod 0 HONEST JOHN Complement, and placing them with the warhead; inclusion of an arming timer in addition to the integrating accelerometer currently employed to reduce premature probability; the addition of a dual motor IFI to reduce dud probability; and the changing around of components for improved accessibility. These modifications, other than the separation of the X-unit and inverters from the missile complement, had not, at the end of the year 1953, been formally approved by the Department of the Army. Action was being taken by the Army, however, toward favorable concurrence in all the proposed modifications.

XW-7/NIKE B.

In March 1953, the MLC notified the DMA of the requirement for the extension of the NIKE surface-to-air missile system to deliver an XW-7 warhead. The Joint Committee on NIKE B Warhead Installation was formed, and held coordination meetings on 17 September and 4 November 1953. The Development Division was represented at these meetings, and monitored the preparation of a set of military characteristics

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which the Division planned to forward to the Services for coordination early in January 1954. Picatinny Arsenal was assigned the responsibility for development of the adaption kit for the Xw-7/NIKE B WI, and, on the Arsenal's request, Sandia Corporation was asked by Army's Chief of Ordnance to render assistance as necessary in the development and design of the adaption kit for the NIKE B missile.

Xw-7/HERMES A-2.

The HERMES A-2 program was deleted from the Department of Defense list of approved rocket and guided missile carriers for atomic warheads. (Ref. .)

d. Xw-13 Warhead Installations.

The Services which were developing the missiles designed to carry the Xw-13 WI were responsible for development of the appropriate adaption kits. The Xw-13 universal warhead was a newly designed implosion system, of 60-inch diameter, with remotely controlled automatic IFI. This warhead was being developed for interchangeable use in the TX-13 bomb and several missiles. Proposed ordnance characteristics of the Xw-13 warhead were completed on 23 October 1953 by Sandia Corporation, and were distributed as SC-2939 (TR). The Xw-13 warhead was currently scheduled for design release in November 1954 and for stockpile entry in February 1956.

Xw-13/REDSTONE.

REDSTONE missile No. 1 was launched at Patrick Air Force Base on 20 August 1953. The flight, although erratic, was considered successful for development purposes. Excellent data were

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obtained through use of telemeter records, cameras, radar with bore site camera, and theodolites. Not sought in this test, but obtained as a result of the emergency cut-off given by the range safety officer, was the telemetering and photographic record of the separation of the warhead nose section from the booster section. Following this successful launching, the first meeting of the Joint Committee on REDSTONE Warhead Installation was held, 11-14 October 1953. Army Ordnance designated Picatinny Arsenal the responsible agency for development of the adaption kit for the missile. At the end of the year 1953, the Arsenal was negotiating with Sandia Corporation for the development of baro and radar fuzing, and with Diamond Ordnance Fuze Laboratory for the development of radar fuzing. So much progress had been made in the over-all REDSTONE program that 75 such missiles had been authorized. In order that REDSTONE might be operational in 1957, by which time, according to schedule, the 75th missile would have been fired, the complete design release for the warhead and adaption kit would need to be made about July 1955. It was planned that the first missile to be tested with the warhead installation would be No. 7, scheduled for December 1954. Although the XW-13 warhead was currently the one planned for the REDSTONE missile, the Joint Chiefs of Staff expressed a requirement for the [redacted]warhead, which was within the payload limits of the REDSTONE missile, and which should provide yields in the [redacted] range.

XW-13/XE-62 (SNARK).

Northrop Aircraft, Inc., made a fuzing proposal

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for the XB-62 (SNARK) missile which received the tentative approval of the Air Force. The proposed fuze would contain two baros, operating in sequence, which would activate a mechanical switch assembly to arm and fire the warhead at the proper time. A contact burst back-up would also be provided. Early in the year 1953, the complete design release date for SNARK was set for April 1954, and the stockpile entry date, for July 1955; by the end of the year, the stockpile entry date was not expected to be before sometime late in 1956 or early in 1957. Sandia Corporation scheduled the first flight test warhead to be available at the Air Force Missile Test Center in April 1954. The adaption kit development contract was assigned to the missile contractor, Northrop Aircraft, Inc.

XW-13/XB-64 (NAVAHO).

During the first half of the year 1953 effort on the XW-13/XB-64 was confined principally to the interchange of information between Sandia Corporation and North American Aviation, Inc. Complete design release and stockpile entry were scheduled for 1957 and 1958, respectively. Throughout the latter half of the year, missile development proceeded well, with successful test flights made by the X-10 Flight Test Missile. Development of the adaption kit for this installation was assigned to the missile contractor, North American Aviation, Incorporated.

e. XW-8 Warhead Installation.

The development of the complete XW-8 WHI was assigned to Sandia Corporation. Only the REGULUS missile was currently scheduled to carry this penetrating gun-type warhead.

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XW-8/REGULUS.

In February 1953, the DOD-coordinated "Glossary of Terms and Military Characteristics for the XW-8/REGULUS Warhead Installation" was forwarded to the MLC, and the stockpile-to-target sequence and environmental criteria were forwarded to Field Command, AFSWP. Late in March, the glossary and military characteristics were approved by the MLC and were forwarded to the DMA, AEC, for action. Copies of the glossary and military characteristics were likewise sent to Field Command. Copies of the stockpile-to-target sequence and associated environmental criteria, reproduced by Field Command in the customary form, were received and forwarded to the Services in May 1953.

In September 1953, the Atomic Energy Commission commented on the glossary of terms and military characteristics for the XW-8/REGULUS warhead installation. In general, the AEC approved the terms and characteristics as defined, except that it felt that the fuzes should be defined as part of the warhead rather than as part of the adaption kit, that the 50,000 feet altitude pressure environment should be reduced to 40,000 feet, that the water leakage into the warhead should not be specified differently than in the Mk 8 bomb, and that in order not to unduly complicate the design of the missile, access to the tail plug and initiator at the rear of the warhead, subsequent to the assembly of the missile, should not be provided. These AEC comments were forwarded to the Chief, AFSWP, on 14 September 1953, for information and appropriate action. After study of these AEC comments, and after considerable research

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by the Development Division with Ops 36 and 51 of the Office of the Chief of Naval Operations, BuAer, and BuOrd, and as a result of correspondence between the AFSWP, the MLC, and CNO, a draft memorandum from the MLC to the AEC was forwarded by the Chief, AFSWP, to the Chairman, MLC, on 2 November 1953. In general, the AFSWP position was that the Department of Defense should not back down and change the glossary of terms and military characteristics to show the fuze as a part of the warhead rather than of the adaption kit. A number of supporting reasons for this stand were given. On other proposed changes, the AFSWP concurred with the AEC. Late in November, the AEC agreed to define the fuzes as part of the adaption kit. Another problem arose in the fall of 1953 in connection with the XW-8/REGULUS project. No production requirements had been stated by the Joint Chiefs of Staff, which made it impossible for the AEC to outline an efficient and economical program for this warhead installation. Furthermore, the Chief of Naval Operations desired to change the development program to make it less expensive from the point of view of the Navy. As of the end of the year, there were still no stated production requirements. As a result, the XW-8/REGULUS development program was placed on an unscheduled basis with Sandia Corporation, despite its having had a successful warhead systems test on 24 September 1953. The XW-8 warhead was, however, identical to the Mk 8 bomb less the fuzes, and there was little question that the warhead installation could operate satisfactorily in the future.

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f. XW-12 Warhead Installations.

The adaption kit for each of the two missiles authorized to carry the XW-12 warhead was a development responsibility of the Service having cognizance of that particular missile - the Navy, for the TALOS W; the Air Force for the BOMARC.

XW-12/TALOS W.

The development of the XW-12/TALOS W warhead installation was formally initiated by a memorandum from the MLC to the Chairman, AEC, in February 1953. The X-unit for the XW-12 warhead was to be a non-standard item. Field Command was questioned on this point as well as about easing the criteria for the TX-12 X-Unit. Field Command replied that the TX-12 X-Unit had to be retained because of the lower temperatures which would be experienced by the bomb than by the missile. The X-Unit in the XW-12 warhead had to be smaller than that in the TX-12 bomb, in order to fit in the missile centerbody.

Since it was believed that the development of a non-standard X-Unit for the TALOS W would seem inconsistent to the Services, in view of the desire for standardization, a letter explaining the situation was forwarded in March to interested agencies. In April, the Development Division sent a representative to the second meeting of the TALOS W Coordination Committee, at the Applied Physics Laboratory, Johns Hopkins University. This representative informed the Committee of the Army and Air Force interest in the XW-12/TALOS W. As a result, the AFSWP was requested to obtain desired stockpile-to-target sequences and environmental criteria from these two Services as soon as possible

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in order that such information could be considered in the development of the warhead installation. Development proceeded on schedule throughout the year 1953. The first flight of the TALOS W with warhead installation aboard was made in December, and was apprently successful. Complete design release was scheduled for September 1954, and the stockpile entry date, for December 1955. Earlier plans had scheduled the complete design release for March 1954, with the possibility of stockpile entry in January 1955. Since, however, none of the Services would be ready to use this weapon system by that time, there was no reason for expediting the project to meet the earlier dates.

XW-12/XF-99 (BOMARC)

The development program for the XW-12/XF-99 was approved by the Research and Development Board at its 44th meeting on 28-29 January 1953. The project was formally established by the MLC in a memorandum for the Chairman, AEC, in March 1953. As of 31 December 1953, it had not yet been scheduled for development by Sandia Corporation, but had been in the study stage. Current planning called for an operational date of 1959 or 1960.

g. Studies.

During the first half of the year 1953 there were two projects in the study phase for the Department of Defense. They concerned atomic warheads for the Air Force guided missile, ATLAS, and the Navy guided missile, TRITON. During the latter half of the year the MLC requested the AEC to undertake two new feasibility studies - one for the marriage of XW-5 warheads with the supersonic missile, REGULUS II,

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and one for an atomic capability for the antiaircraft missile, TERRIER. Action was initiated by the Department of the Navy for two additional feasibility studies to provide high yield warheads for REGULUS II and for TRITON.

(1) REGULUS II.

By memorandum to the Chairman, AEC, dated 19 November 1953, the MLC requested the AEC to make a feasibility study of adapting the XW-5/REGULUS warhead to the supersonic REGULUS II guided missile. Redesign of the existing REGULUS missile to achieve supersonic speeds was not expected to affect adversely the compatibility of the XW-5 warhead with this missile. The supersonic REGULUS II was expected to attain a maximum speed of Mach 2, and a range of 830 nautical miles, and to be capable of operation at 55,000 to 60,000 feet altitude. It would be heavier and longer than the subsonic REGULUS I. The REGULUS II would be able, however, to utilize the launching and handling equipment designed for REGULUS I, with a minimum of modification. Expected accuracy was 1,800 ft. CEP. The program called for FTV* flight in 1955 and for fleet evaluation in 1957. One of the first official requests for a thermonuclear warhead for a missile was made on 31 December 1953, when the Secretary of the Navy requested that the Secretary of Defense approve a study to establish the feasibility of adapting both [redacted] types of warheads to the REGULUS II supersonic missile. (Ref. 194.)

(2) TRITON.

Currently, it was planned that the TRITON missile

*Flight test vehicle

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would carry the XW-13 warhead. As a result of the missile system being in a preliminary design status, with a scheduled operational date of about 1965, no significant items of information were available on the warhead installation development. As in the case of the REGULUS II, the Secretary of the Navy requested the Secretary of Defense to approve a study of the feasibility of adapting the [redacted] warheads to the TRITON missile. (Ref./94 .)

(3) ATLAS.

The ATLAS missile design proceeded, but since an extended period of time would still be required for completion of the missile development, no specific warhead had as yet been requested for this missile system.

(4) TERRIER.

By letter to the Chairman, MLC, dated 16 December 1953, the Chief of Naval Operations requested that the AEC be asked to conduct a study to determine the most suitable currently programmed warhead for possible marriage to the TERRIER missile. (Ref./95.) This request included examination of the feasibility of providing the TERRIER missile with an implosion-type warhead of optimum size and weight. The TERRIER was a ship-launched, supersonic, antiaircraft missile capable of delivering a 220-pound warhead approximately ten nautical miles with an accuracy [redacted] It appeared that the only programmed atomic device which might be suitable for modification and marriage with the TERRIER missile would be the 8-inch artillery fired atomic projectile which was being designed to weigh 240 pounds.

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The estimated shipboard operational date of TERRIER was 1955, which would be three years in advance of the expected TALOS W shipboard capability. The Development Division recommended to the Chief, AFSWP, that the requested feasibility study be supported by the MLC since it emphasized specific application of the previous recommendation of the Joint Technical Survey Group for investigation of novel ideas leading to an 8 to 12-inch diameter weapon weighing from 100 to 200 pounds. Such small-sized, light-weight warheads were considered to be well suited for many delivery systems, particularly for air-to-air and surface-to-air missile systems.

3-7-5. Thermonuclear Program.

a. General.

During the first half of the year 1953, Headquarters, AFSWP, was hindered somewhat in its efforts to follow developments in the field of nuclear components, and particularly in the thermonuclear field, because of the fact that Los Alamos Scientific Laboratory did not welcome visits from staff officers of the Development Division, AFSWP. Sources of information were the Weekly Activities Summary from the Development Division of Field Command, AFSWP; periodic reports of the Emergency Capability Program under joint direction of the Air Force Special Weapons Center, Sandia Corporation, and Los Alamos Scientific Laboratory; and periodic summaries and papers prepared by Los Alamos Scientific Laboratory and the University of California Research Laboratory.

The situation with respect to developments in the

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field of nuclear components and in the thermonuclear field improved slightly during the latter half of the year as a result of the periodic visits to the Division of Military Application, AEC, in Washington, of key scientists from both Los Alamos Scientific Laboratory and the University of California Research Laboratory (UCRL). Representatives from the AFSWP and from each of the Services were invited to attend informal conferences at which it was possible to question these scientists, and to get the latest information on developments at their respective laboratories. It was felt that improved liaison should also result from the informal arrangements made with the Los Alamos Scientific Laboratory to have an officer of the Development Division attend the periodic re-orientations given at LASL for the nuclear instructors of the technical training groups of Field Command, AFSWP. The following of developments at UCRL was facilitated by the assignment of an AFSWP liaison officer to duty there. Reports received from this liaison officer, plus visits to UCRL by representatives from Headquarters, AFSWP, made it possible to keep informed on activities at that laboratory.

b. TX-14, TX-16, TX-17 (Emergency Capability Program)

Development of an emergency thermonuclear weapon capability continued, under joint direction of the Air Force Special Weapons Center, Sandia Corporation, and Los Alamos Scientific Laboratory. The Armed Forces Special Weapons Project kept the Army and the Navy informed of developments in this field. Since it was expected that, at some future time, one or more of the emergency capability thermonuclear weapons, currently known as the TX-14, the TX-16, and the TX-17, would

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be developed into [redacted] stockpile weapons, it was essential that the AFSWP be ready to perform its normal mission with respect to such weapons. With this purpose in mind, the Development Division initiated action which resulted in an agreement with representatives of the three Services and the Director of Military Application, AEC, to the effect that the Commanding General, Field Command, AFSWP, would be regarded as a fourth principal in the emergency thermonuclear weapon capability development. During the latter half of the year 1953 this development was primarily concerned with making final changes and in making the weapons ready for shipment for the CASTLE test in the spring of 1954. The Development Division followed the development of these weapons to the extent practicable, making a continuing study of the relative merits of the various devices with a view toward being prepared to make certain recommendations at the conclusion of the CASTLE tests.

c. TX-15 [redacted]

[redacted] A letter from the Chairman, MLC, to the Chairman, AEC, dated 23 April 1953, requested that a study be undertaken concerning a small light-weight thermonuclear weapon having characteristics approximating those previously ascribed to [redacted] The letter stated that the time scale of the proposed development should anticipate stockpile entry by late 1955, and that the AFSWP should arrange liaison between the Services and scientific laboratories, while retaining its function of assuring that all Services were kept fully informed of the development status of the program. The Chairman, AEC, sent a letter of reply

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dated 5 June 1953, stating that preliminary studies indicated that there might be designed a [redacted] system which could compete with the [redacted] TX-13, but that a stockpile entry date of late 1955 would not be attainable under a normal development pattern.

d. [redacted]

A thermonuclear device weighing approximately one-half as much as the TX-17 [redacted] was prepared by Los Alamos Scientific Laboratory for testing at CASTLE. If successful, and when fully weaponized, this device [redacted] would fill a requirement for a weapon in the 15,000 to 18,000 pound class, yielding [redacted]

e. [redacted]

The Livermore Laboratory was proceeding with the development of two thermonuclear weapons, [redacted] was in the weight class of 15,000 to 18,000 pounds, with a yield range of [redacted] was in the weight class of around 3,000 pounds, with a yield of [redacted] These were both [redacted] to be tested [redacted] The Development Division kept the Services informed concerning the development [redacted] As of the end of the year 1953 neither of these two devices had progressed far enough past the early status of development to enable the Services to compare it with other weapons in the same general weight and yield range.

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3-7-6. Radiological Warfare.

The report of the AFSWP-sponsored study group which reviewed the technical aspects of radiological warfare was issued late in the year 1952. (See Vol. V, par. 3-7-7.) This report was reviewed by the Military Liaison Committee, the AEC, and Department of Defense agencies. The MLC consolidated the comments received concerning the report, which was accepted and approved as the official DOD periodic review on radiological warfare.

In February 1953, at the request of the Joint Chiefs of Staff, the Weapons Systems Evaluation Group embarked upon a study of the military worth of RW. This study, although designed to investigate all aspects of the problem, was to place particular emphasis on the logistical and tactical aspects and implications of RW. The study was completed in the second half of the year 1953, and the report of the Weapons Systems Evaluation Group was submitted to the JCS. Members of the RW Branch of the Development Division provided some assistance in the preparation of this report, and read and commented on many of its sections while they were in draft form.

The most significant technical development in the field of radiological warfare during the year 1953 concerned the activation of tantalum by neutron irradiation. To produce Ta^{182}, Ta^{181} was exposed to neutrons. It was discovered, after irradiating tantalum in the Hanford piles, that the specific activity of the material was only about one-fourth that which had been expected. Subsequent investigation concerning this low specific activity, by Hanford and by Brookhaven National Laboratory,

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disclosed that the Ta^{182} which had formed had captured a large number of the neutrons, and had formed Ta^{183}. Since Ta^{183} decays rapidly (half life of six days), the resulting mixture was low in activity. The significance of this finding lay in the fact that it eliminated tantalum from all further consideration as an RW agent.

In June 1953, faced with a directive to cut its total research and development budget by 45 percent, the Army reduced the FY 1954 funds for RW research and development from $3,400,000 to $300,000. This budget cut resulted in the suspension of all activities in the field as of the end of the year 1953. The Air Force effort in the RW field had been only sufficient to support the effort of the Army. Thus, when the Army activities in RW research stopped, the Air Force activities ceased also.

3-7-7. Development in Various Other Fields.

a. Boosting.

The new boosting technique, [redacted] was successfully tested [redacted] The actual yield of the test shot [redacted] was nearly twice as much as the predicted unboosted [redacted]

The Development Division followed the progress of Los Alamos Scientific Laboratory in overcoming the problems [redacted] Information on this program was informal in nature. It appeared that there might be some question as to whether

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b. Handling Equipment.

The using Services accepted the military requirements for containers for the TX-11 and TX-13 weapons as prepared by the AFSWP. In so doing, the Services concurred in the requirement that the containers for these weapons would not include roading gear, and each accepted the responsibility for supplying a roadable gear to meet its own operational needs.

In an effort to effect practical economy in the handling equipment for atomic weapons, and to alleviate possible shortage of stockpile space in the future, the AFSWP studied the entire program, and recommended to the Services that the principles established in the case of the TX-11 and TX-13 containers be applied to the Mk 5, Mk 7, and TX-12-X1 containers. In the case of the Mk 5 and Mk 7 containers, this would require a redesign for all new production. In the case of the TX-12-X1 container, it would require abandonment of the proposed design and the substitution of a new one for all TX-12-X1 production. This would not, however, cause a significant delay, in view of the cancellation of the TX-12 program in favor of that of the TX-12-X1.

During the second half of the year 1953 the Army and the Navy concurred in the AFSWP proposals for elimination of roading gear and for the design of simpler containers for new production of the Mks 5, 7, and 12. The Air Force asked additional time to study the matter. In the meantime, the question of new containers for the Mk 5 had been obviated by the fact that current JCS requirements for this

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weapon scheduled no new production. In the case of the container for the Mk 12, a redesign was necessary to provide for the "hard shell" version, when the "soft shell" version was cancelled. As a consequence, the Services, by separate action, concurred in the redesign of the Mk 12 container. At the end of the year 1953, therefore, the redesign of the Mk 7 container remained the main unanswered problem in the field of handling equipment, awaiting the concurrence of the Air Force .

c. Weapon Reliability.

The Development Division carried on continuing efforts, during the year 1953, to improve general weapon reliability and to establish acceptable standards of reliability for atomic weapons. As a follow-up of the "Report of the Weapons Reliability Committee", of the Special Weapons Development Board, dated 12 November 1952, Field Command, AFSWP, recommended that the Air Force again be requested to establish a continuing project within the U. S. Air Force Aero-Medical Laboratory to assist the AFSWP and Sandia Corporation in the human engineering aspects of new atomic weapon design. Upon investigation of this matter, the Development Division found that the Air Force was taking positive steps to include human engineering in its atomic weapons program, and that the Aero-Medical Laboratory would be utilized in the program, but that no specific project had as yet been established there.

As another follow-up of the report of the Weapons Reliability Committee, the Department of the Army submitted certain views in regard to the reliability of atomic weapons and the conclusions and recommendations presented by the AFSWP. The Development Division,

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AFSWP, believed that the Department of the Army presented useful new concepts which added to, but did not contradict, guidance given in the past to the AEC. The Department of the Army presented a definition and a philosophy for each of the following terms:

(1) Disaster Premature Probability

(2) Non-Disaster Premature Probability

(3) Reliability

(4) Delay Probability

(5) Dud Probability

d. Portable Assembly Building.

The program arranged by the AFSWP with the Air Force for the climatic and functional tests of the CAS Building and accompanying utilities was completed at Eglin Air Force Base in January 1953. (See Vol. V, par. 3-7-8d.) The climatic tests proved the validity of the building design assumption concerning types of material and individual component construction. The tests also dictated certain changes in the utility equipment to provide for satisfactory operation in compliance with the military characteristics.

In February 1953 the building under test was airlifted to Sandia Base, where it underwent operational suitability tests. In May, the building was subjected to limited operational suitability tests at White Sands Proving Grounds and at Fort Bliss, Texas, in conjunction with the XW-7/CORPORAL Joint Task Group operations. As a result of these limited operational suitability tests it was demonstrated that the CAS building complied with the military characteristics insofar as field use was concerned.

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In order to assist Service representatives who were considering procurement action on this assembly building, a one day CAS building conference and demonstration was arranged at Sandia Base, New Mexico, 5 March 1953. Representatives of the Army, the Navy, and the Air Force attended this conference, and discussed the capability of the CAS building to satisfy military requirements agreed to by the three Services and the AFSWP at a conference held 22 January 1952. The AFSWP made recommendations for the final production model, and further recommended that the Services take early action for procurement of buildings, back-up parts, and supplies, to meet their specific requirements. Representatives of the three Services, after several conferences with the Bureau of Yards and Docks, the Engineer Research and Development Laboratories, and the AFSWP, compiled a set of military specifications for the CAS building. Military interdepartmental procurement requests (MIPRs) were submitted to the Department of the Navy (BuDocks) by the Army, the Navy, the Air Force, and the AFSWP, and a negotiated contract was signed on 29 June 1953 with the Steelcraft Manufacturing Company, Rossmoyne, Ohio, for delivery of the required number of CAS building units.

On 20 August 1953, a project report was published by Field Command, AFSWP, which was expected to serve as a source of useful engineering, operational, and logistical information for the employment of the production model of the CAS building. Realizing the need for reducing the building erection time, the Development Division made an effort to obtain a satisfactory development by Field Command of quick connectors which would replace the bolts used to secure the wall and roof panels to the CAS

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building structural frame. As a result of production difficulties, the disconnectors designed by Butler Manufacturing Company were not received by Field Command until 3 December 1953. If found satisfactory, the quick connectors might be retrofitted to buildings currently under procurement.

On 2 December 1953, a representative of the Development Division visited the plant of the Steelcraft Manufacturing Company, Rossmoyne, Ohio, and observed a demonstration there of the first production unit of the CAS building. Many specific problems were found to exist, which necessitated a series of talks with representatives of the Bureau of Yards and Docks, the Engineering Research and Development Laboratory, and Field Command. Service representatives made frequent requests for information and technical guidance concerning operational evaluation and employment of this atomic weapons assembly structure. Remaining of particular interest at the end of the year were some developmental problems in regard to the light-weight air conditioners, space heaters, electric generator sets, and special packaging being developed for improved air transportability of the CAS building.

e. Acceptability of Atomic Weapons.

The old question concerning the acceptability of atomic weapons was reintroduced by the AEC in July 1953. Upon general release of Mk 6 Mod 4 and Mk 6 Mod 5 fuzes, the Division of Military Application, AEC, stated, in a memorandum to the MLC, that these fuze assemblies were ready for DOD standardization. (Ref. /96 .) In reply, a letter from the Chairman, MLC, to the Chairman, AEC, dated 19 August 1953, set forth the

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views of the Department of Defense on the matter, and suggested that the problem be discussed by representatives of the AEC and the MLC, in joint meeting. General Fields and General Luedecke, as respective representatives of the AEC and the DOD, were requested to present the problem at a joint meeting of the MLC and the AEC. The Development Division, Headquarters, AFSWP, prepared and coordinated the DOD presentation on acceptability (standardization) of atomic weapons. After some delay, Generals Fields and Luedecke decided not to make their respective presentations, but to encourage the introduction of normal type classification or acceptance procedures by the individual Services, as the DOD acceptance (standardization) function. Late in the year 1953, both the Army and the Air Force signified intentions to assign type classifications to atomic weapon material. The Army began tests, with that end in mind; the Air Force requested specific assistance from the AFSWP in type classification.

f. Power Sources.

Conversion of the stockpile from the Mk 1 Mod 0 (ER12-10) lead-acid power supply to the Mk 2 (NiCAD) power supply continued. (See Vol. V, par. 3-7-8f.) [redacted] By the end of the year 1953, the Mk 2 Mod 0 power supply had replaced the lead acid batteries in stockpile. The NiCAD battery proved satisfactory [redacted]

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[redacted] a revision of the Sandia Corporation manual for preparation of the Mk 2 power supply to specify a limited discharge immediately after charge, for certain situations.

Sandia Corporation continued investigation of the non-electric weapon (NEW) firing system [redacted] to furnish energy to fire the detonators directly.

g. Pressure-Height Prediction.

Project AROWA proposed a continuation of the work to improve surface pressure height prediction in silent areas. The AFSWP requested the Navy to continue Project AROWA during the year 1954. The Project had made a valuable contribution toward the prediction of barometric pressures at given altitudes; additional requirements were possible. The AFSWP was prepared to support the project for further machine tabulation and for vorticity studies.

3-7-8. Organization and Personnel.

During the year 1953 the organization of the Weapons Development Division remained unchanged. One additional officer billet was created by assignment from the Weapons Test Division. This additional billet (in the Components Branch) brought the strength of the Division to a total of eleven officers.

On 11 January 1953, Commander Robert F. Harbison, USN, reported for duty and was assigned to the Weapons Branch of the Division, bringing that Branch to full complement. On 11 May, Commander Roger F. Smith, USN, reported to fill the newly created billet in the Components

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Branch. Another new officer in the Components Branch was Lieutenant Commander Thomas L. Hine, USN, who reported on 1 July 1953 as prospective relief for Lt. Colonel Norman Farrell, USA. Lt. Colonel Farrell was released from active duty on 31 July 1953. On 6 August, Colonel Irving L. Branch, USAF relieved Colonel William B. Kieffer, USAF, as Chief of the Division.

As of 31 December 1953, officer personnel of the Development Division was as follows:

Chief

Col. Irving L. Branch, USAF

Executive

CAPT Robert S. Riddell, USN

Weapons Branch

Lt. Col. Charles E. Fay, Jr., USA
CDR Robert F. Harbison, USN
Maj. Ernest C. Saltzman, USAF

Components Branch

Lt. Col. Merwin B. Forbes, USA
CDR Roger F. Smith, USN
LCDR Thomas L. Hine, USN

Warheads Branch

Lt. Col. William M. Boggs, USA
Lt. Col. Michel A. G. Robinson, USAF

Radiological Branch

Maj. Thomas A. Gibson, Jr., USA
(Additional duty assignment;
See par. 3-8-8)

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3-7-9. Functions of the Division.

As of the close of the year 1953, the functions of the Weapons Development Division, as set forth in "Organization and Functions, Headquarters, Armed Forces Special Weapons Project," were as follows:

a. Duties of the Chief of the Division.

(1) To report to and to advise the Deputy Chief of Staff, Technical Services, on matters pertaining to weapons development.

(2) To coordinate activities of various branches, and to initiate studies, as required, in problems and policies of weapons development.

(3) To maintain liaison with appropriate DOD agencies and with the AEC, concerning weapons development.

(4) To prepare the AFSWP budget for atomic weapons development items, and to plan expenditures of appropriated funds.

(5) To coordinate the work of the Division with AFSWP field activities.

(6) To issue periodic Weapons Development Reports to the Services.

b. Weapons Branch.

(1) To monitor and coordinate the development of all weapons, other than missile warheads, with development agencies of the DOD and the AEC.

(2) To prepare and coordinate statements of military characteristics for new weapons, and to forward the approved MCs to the JLC.

(3) To exercise liaison with the Development Division, Field Command, in all matters concerned with weapons development.

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Memorandum of 29 January 1954, "Weapons Development Division History - 1 July through 31 December 1953" (SWPDV-2-314.7) (SWP/54-188).

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FIRST HISTORY OF AFSWP 1947 - 1954

VOLUME 6 - 1953, CHAPTER 3 - HEADQUARTERS

SECTION 8 OF 14 SECTIONS

THIS SECTION DECLASSIFIED BY DNA,
CHIEF, ISTS

DATE: 10/3/94

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HISTORY OF AFSWP

VOLUME VI - 1953

CHAPTER 3. HEADQUARTERS

SECTION 8. WEAPONS EFFECTS DIVISION

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VOLUME VI - CHAPTER 3

SECTION 8. WEAPONS EFFECTS DIVISION

3-8-1. General.

Of importance in the history of the Weapons Effects Division was the inactivation, on 1 April 1953, of the Weapons Defense Division. The residual functions of the latter were transferred to the Operations and Training Division and to the Weapons Effects Division. As a result of this transfer of functions, several changes occurred in the Weapons Effects Division. A new branch, the Effects Application Branch, was established. To this branch was assigned the responsibility of evaluating atomic weapons effects data, producing publications for training purposes, and assisting in civil defense matters. The Medical Branch of the Defense Division was transferred to the Effects Division without change in personnel and functions. The responsibility of the Weapons Defense Division for development of radiological instrumentation was assigned to the Radiation Branch.

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The following subparagraphs deal with events or subjects of interest and importance to the Division as a whole. Many of the matters dealt with therein were handled by the Chief of the Division, and, therefore, do not belong in the paragraphs describing the activities of any of the branches.

a. Operation UPSHOT-KNOTHOLE.

(See Vol. V, par. 3-8-1(f); 3-8-2(a); 3-10-2e.)

The Chief of the Weapons Effects Division, Colonel

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Blunda, USAF, spent the month of May at the Nevada Proving Grounds, participating in the KNOTHOLE phase of Operation UPSHOT-KNOTHOLE, reviewing the Operation, and helping compile preliminary reports after each shot. Colonel Blunda was detailed by Colonel P. T. Preuss, Director of Weapons Effects Tests, to escort Lt. Gen. G. B. Keyes, Maj. Gen. G. H. Davidson, Maj. Gen. H. S. Hansell, and Colonel W. F. Train, members of the Weapons Systems Evaluation Group, through the test area and to brief them on the Operation and on the objectives of the various programs. Together with Dr. Scoville, Colonel Blunda also escorted ADM Radford, newly appointed Chairman of the Joint Chiefs of Staff, through the test area and briefed him on the Operation and on the development programs being implemented thereby.

b. Operation CASTLE.

The Division Chief participated in the development of the programs for Operation CASTLE. One of the major conferences was held at Los Alamos, New Mexico, during the week of 3 March 1953. Colonel Blunda was accompanied by Dr. Scoville, Technical Director, AFSWP, and CAPT N. E. Kingsley, USN, then head of the Blast Branch. The purpose of this conference was to discuss and, as much as possible, prescribe, the extent of participation of the Department of Defense in the Operation. CAPT Kingsley was, upon the recommendation of Colonel Blunda, selected to take charge of the group coordinating the preliminary phases of this Operation for AFSWP. During the second half of the year 1953, the Division completed the coordination of Operation CASTLE programs, which were then turned over to CAPT Kingsley for implementation in the field.

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c. Operation TEAPOT.

During the latter part of the year 1953, the Chief of the Weapons Effects Division instituted planning for Operation TEAPOT. Only over-all preliminary planning was accomplished during this period. (See par. 3-10-2g.)

d. "Capabilities of Atomic Weapons" (TM-23-200).

Two conferences were held during the first half of 1953, one in Headquarters, AFSWP, and one at Sandia Corporation, in regard to the means of presenting target analysis. Both the O&T Division and the Field Command faculty of the Weapons Effects (WE) Course indicated difficulty in understanding the method currently included in "Capabilities of Atomic Weapons" (TM 23-200). As a result of the two conferences and an exchange of correspondence, it was decided that the AFSWP would publish a document containing, in a simplified form, the three methods, namely, the method presented in TM 23-200, the Sandia method, and the method of the Physical Vulnerability Division of the Air Force. At the time of publication of the proposed document, Appendices I and II of TM 23-200 would be deleted. The proposed technical document would also include a simplified method of computing buffer zones which would, in effect, replace Appendix V of the handbook. In view of these plans, a supplement to TM 23-200 was prepared, making corrections of major errors and informing the Services of the proposed publication described above. It was stated that until such publication became available, the holders of the current handbook (TM 23-200) could continue to use Appendices I, II, and V, together with the corrections contained in the supplement. The latter was distributed in August 1953.

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e. "Super Effects Handbook".

Based mainly on the information obtained from Operation IVY, the Super Effects Handbook was revised. The revised edition (AFSWP 351-A) was published and disseminated on 28 April 1953.

f. The "Big Picture".

The AFSWP implementation of the analysis of Weapons Effects Programs (known as the Big Picture) was divided into two broad sections - the technical phase and the operational phase. Beginning in September 1953, a series of conferences was held with representatives of the Services. These conferences completed the technical phase. General agreement was reached as to the status of weapons effects knowledge and the amount of effort which would be required to increase or refine this knowledge. It was planned to implement the operational phase early in 1954, with the objective of establishing the fields of weapons effects in which sufficient information was available, and the minimum requirements for additional full-scale tests, laboratory projects, and analytical studies to fulfill operational needs.

The "Big Picture" survey, when completed, would replace at least one edition of the "AFSWP Military Effects Program Summary", the latest edition of which was published as of 1 April 1953. This April 1953 edition had a wider distribution than any previous one -- 200 copies, of which 156 were sent outside of Headquarters, AFSWP.

g. Lectures.

The Chief of the Weapons Effects Division gave the following lectures and briefings during the year:

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(1) A weapons effects presentation to the Special Committee on Air Defense (Office of the Secretary of Defense), on 25 January 1953.

(2) A weapons effects presentation to the Chairman, Research and Development Board, on 26 January 1953.

(3) A briefing on capabilities of atomic weapons to a special committee which included Lt. General Bull, USA (Ret.), Lt. General Edwards, USAF (Ret.), and CAPT Bruton, USN, on 15 April 1953.

(4) A lecture on results of recent atomic tests, to Class 53-C, Air Command and General Staff School, Air University, Maxwell Air Force Base, on 12 June 1953.

(5) A briefing to the Continental United States Defense Planning Group, on the subject of effectiveness of atomic weapons on industrial areas, on 29 June 1953.

(6) A presentation on the effects of atomic weapons to ICIS* and IIC**, on 5 August 1953.

(7) A briefing on the effects of atomic weapons for Admiral L. L. Strauss, Chairman of the Atomic Energy Commission, and members of a special advisory group, on 7 August 1953.

(8) A briefing on the effects of atomic weapons for the Commissioners of Washington, D. C., and members of the Office of Defense Mobilization, on 18 November 1953.

(9) A presentation on the effects of atomic weapons to the ICIS, on 7 December 1953.

*Interdepartmental Committee on Industrial Security
**Interdepartmental Intelligence Conference

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3-8-2. Radiation Branch.

a. Participation in Weapons Tests.

Members of the Radiation Branch who participated in Operation UPSHOT-KNOTHOLE at Nevada Proving Grounds in the spring of 1953 were Colonel E. B. Giller, Major John d'H. Hord, and LCDR R. G. Preston. Col. Giller and Maj. Hord served on the staff of Dr. E. B. Doll, Deputy Scientific Director for Weapons Effects Tests, and worked with the group that wrote the preliminary reports. LCDR Preston served on the same staff and was Program Director for Program 8, "Measurements of Thermal Radiation." In the second half of the year, Major Yucker, who joined the Division and branch during that period, was responsible for AFSWP technical review of the UPSHOT-KNOTHOLE reports. Other members of the Radiation Branch assisted in this work.

The Radiation Branch participated in the planning of the military effects programs for Operation CASTLE, which was to be conducted in the spring of 1954.

Preliminary planning was begun during the latter half of the year 1953 for Operation TEAPOT, which test series was to be conducted at Nevada Proving Grounds in the fall of 1954 or the spring of 1955. Colonel Giller was assigned the responsibility of developing, in conjunction with representatives of the three Services, the effects experimental program which would be a part of the Operation. Of particular interest was the planned burst at an altitude of approximately 40,000 feet. This shot was being planned for the purpose of verifying weapons effects knowledge in anticipation of the use of atomic weapons for air defense.

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b. Studies in Thermal Radiation.

(See Vol. V. par. 3-8-2b.)

The preliminary results from Operation IVY had been used to derive a tentative scaling law for total thermal radiation energy for weapon yields extending to 50 megatons. This scaling law which was presented in "Super Effects Handbook" (see Vol. V, par. 3-8-1c (2)), was subject to revision when final test data became available. Thermal radiation power curves from IVY served to validate the scaling law for times of the minimum and the second maximum for all weapon yields from 10 kilotons to 10 megatons.

During the first half of the year 1953, two phases of a staff study on the effects of environment on weapons effects were prepared by members of the Radiation Branch. They were: "A Study of the Effects of Environment on Thermal Radiation", which dealt with the effects of fog, clouds, rain, smoke, and terrain; and "A Study of the Influence of a Forest on the Effects of an Atomic Weapon", which presented the effects of blast and thermal radiation on a forest, and the converse. This latter phase of the study was based entirely upon the current data from an AFSWP contract with the Forest Service, Department of Agriculture.

In March 1953, a meeting was held with representatives from the Engineer Research and Development Laboratory, the Bureau of Aeronautics, the Cambridge Research Center, and the Naval Research Laboratory, for the coordination of the efforts of these agencies to determine the influence of large reflecting surfaces (such as clouds,

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ground, and water) on the total thermal radiation incident on a target in the air or on the ground. The AFSWP asked NRL to calculate the influence of large reflecting surfaces in approximately 15 situations of particular interest.

Later in the year, a study was completed on the scaling of basic thermal radiation phenomena. This study, entitled "Basic Characteristics of Thermal Radiation from an Atomic Detonation", was distributed to interested agencies. The scaling relationships presented in the study were the result of the efforts of a special working group which convened at the Naval Research Laboratory in July 1953. This group, composed of representatives from the Naval Research Laboratory, the University of California at Los Angeles, and the U. S. Naval Radiological Defense Laboratory (the laboratories which conducted thermal measurements at past weapons tests) critically reviewed all existing thermal data, and arrived at the most reliable numbers for the basic characteristics of the radiant energy from all atomic detonations of weapons from Operation GREENHOUSE through IVY with yields up to 10 MT. One of the most valuable relationships developed in the paper was a generalized time-intensity curve for thermal energy from any weapon with yield between 10 KT and 10 MT.

The limitations of the attenuation laws for thermal radiation were given additional attention. The Air Force Cambridge Research Center and the Naval Research Laboratory, the latter under an AFSWP contract, began field measurements programs employing simulated bomb radiation sources under a variety of real atmospheres. Meteorological

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aspects of the studies were being properly emphasized, with the hope that the scattering of thermal radiation might be related to common meteorological prediction systems.

The Tenth Meeting of the Panel on Thermal Radiation met in executive session at MIT, Cambridge, Massachusetts, on 20 and 21 July 1953. The purpose of this meeting was twofold: to review, in detail, progress toward preparation of the thermal radiation effects handbook, and to make recommendations for AFSWP support of thermal radiation studies for FY 1954. Seven project proposals, three of which were for medical burn studies, were reviewed and recommended for support, at a total cost of $300,000.

The Eleventh Meeting of the Panel on Thermal Radiation met in executive session at Headquarters, AFSWP, on 14 and 15 December 1953. The primary purpose of this meeting was to conduct critical reviews of the thermal projects being carried on at the Naval Radiological Defense Laboratory and the Naval Materiel Laboratory, and to formulate recommendations for future studies at the two laboratories. In addition, six proposals for thermal burn studies were reviewed. Four of these proposals, in the total amount of $70,000, were recommended for support; the other two were tabled pending development of additional information. A seminar with limited attendance, also held as part of the eleventh meeting of the Panel, was one on fire effects. The AFSWP continued review of fire effects studies, and it was expected that the matter would be given further attention at the next meeting of the Panel.

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The following subparagraphs give brief summaries of the progress made in thermal radiation research under AFSWP contracts at the respective laboratories and agencies listed.

(1) Naval Material Laboratory.

A polyethylene material fabricated with a sensitive thermocouple near the surfaces was given preliminary evaluation as a simulant for skin, for use in studying the protection offered by fabric assemblies against thermal burns. Based upon limited correlations of the data from NML and from the University of Rochester, the polyethylene simulant showed definite promise as a purely physical method for gross evaluation of uniform assemblies, and some possibility, with additional refinement and practice, of obviating the use of animals for routine tests. In order to extend the thermal damage data determined for short pulses to the prediction of thermal damage with long pulses, the NML prepared to study the time-intensity effects, duplicating the true pulse with a limited number of representative materials. Work continued on the flameproofing of fabrics, the effectiveness of which had not yet been fully evaluated.

(2) Naval Radiological Defense Laboratory.

A large part of the effort under the NRDL contract had been directed toward matters connected with participation in weapons tests for measurements of basic thermal phenomena. As a result of such work, the NRDL was in readiness, from the standpoint of instrumentation and trained personnel, to support weapons tests with thermal measurements on the ground and in the air. A Mitchell optics system source of uniform

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intensity over an area one inch square capable of duplicating a true thermal pulse (see (1), above) was put in use at NRDL. Preliminary material damage data from the Mitchell source, and from a square-wave carbon arc source, indicated some striking correlations which might prove useful in extending the thermal damage data obtained with short square-wave pulses to the longer pulses simulating delivery of thermal energy from large yield weapons. Future plans for studies at the Naval Radiological Defense Laboratory included further work on the true pulse from the Mitchell source, a basic study of parameters of fabrics (moisture content, absorptivity of color, pulse duration) as they would affect thermal burns beneath the fabrics (using rats in tests), and studies conducted with the California Forest and Range Experiment Station. (See (6), below.)

(3) Massachusetts Institute of Technology.

The analytical study of the mechanism of damage production in thick materials by thermal radiation was completed for a single layer system and the thermal pulse characteristics of a nominal yield weapon. This study was essentially one of prediction of time-temperature history at various positions in a semi-infinite solid. Depth of char in wooden specimens, chosen as a typical form of damage, was correlated with maximum temperatures attained and the "Punishment Integral".

(4) National Bureau of Standards.

The calculation of the time-temperature patterns in wood as a function of thermal pulse duration was completed. This

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project was terminated at the end of fiscal year 1953 (30 June 1953), and the final report was issued in December 1953.

(5) Forest Products Laboratory.

With participation in Operation UPSHOT-KNOTHOLE, the collection of data on the primary initiation and persistence of fire in urban dwellings at field tests was completed. As of the close of the year 1953 the final report of ignition hazards in and appurtenant to structures, from UPSHOT-KNOTHOLE data, had been completed. The graphite plate thermal source at the Forest Products Laboratory was modified to study critical ignition energies of kindling fuels for long thermal pulses.

(6) Fire Research Division, Forest Service, U. S. Department of Agriculture.

The collection of data on the primary initiation and the persistence of fire in exterior kindling fuels typical of urban areas was completed, and the preparation of the final report was begun.

The study of the effects of atomic weapons on forests progressed in each phase, namely, blast effects, ignition studies, and fire behavior. The study of effects of blast on conifers was completed, and that on hardwoods was begun. The study of ignition of forest fuels was essentially completed, while fire behavior study was continued, particularly certain aspects with respect to moisture content of fuels, effects of terrain, and various meteorological conditions.

At the California Forest and Range Experiment Station, a joint study with the Naval Radiological Defense Laboratory

on the correlation of pulse shape, moisture content, absorptivity, and thickness of kindling fuels, with critical ignition energies, was expected to shed light on factors affecting primary ignitions from weapons throughout the full range of yields. In another study with the NRDL, the two laboratories were investigating the gaseous medium above irradiated surfaces in connection with gaining further insight into phenomena influencing formation of precursor shock waves.

(7) Technical Operations, Inc.

The analysis and the summary of all data obtained under the thermal radiation effects program were begun during the first half of the year 1953. As of the end of the year, Technical Operations, Inc.,had prepared, in first draft form, approximately 70 percent of the 100 data sheets envisioned for the Thermal Effects Handbook.

(8) Naval Research Laboratory.

Under the project, "Calculations of the Influence of a Large Reflecting Plane on the Total Thermal Energy Incident on a Target", approximately half a dozen solutions of the integral expression were obtained for the case of a vertical receiver in various locations with respect to the burst and the reflecting surface. While the solutions did not exactly reproduce the parameters of the measurements made at field tests, the indicated order of magnitude of the contribution of reflected energy to total energy was the same as that measured.

(9) Chemical and Radiological Laboratories.

Work continued on thermal radiation attenuation by the scattering of white, oil fog smokes. Barn experiments with a

carbon arc source were supplemented by full scale smoke experiments at the Dugway Proving Ground, using the sun as a source. Work at the University of Michigan, under a contract with Chemical and Radiological Laboratories, on the theoretical prediction of scatter of radiation by smoke with particle sizes, concentrations, and dimensions, in the range of smoke screens, was essentially completed. Reports were issued on the CRL work, which, together with the work at the University of Michigan, was to be presented for review by a special panel, in January 1954.

c. Studies in Nuclear Radiation.

(See Vol. V, par. 3-8-2c.)

Scaling laws for the scaling of the residual radiological contamination following surface and underground bursts, were under study during the year 1953. The two scaling methods which had been developed by the Naval Radiological Defense Laboratory and by Technical Operations, Inc., respectively, led to different results for some yields and meteorological conditions. Members of the Radiation Branch and the Analysis Branch met with representatives of the two organizations to investigate the problem. The discrepancy was resolved, and the NRDL was asked to publish a method for scaling the radiological effects in question.

The nuclear radiation data obtained from the large yield detonations at Operation IVY were analyzed by members of both the Radiation Branch and the Analysis Branch. It was found that the scaling law of the initial gamma radiation, which stated that the dosage at a given distance would be directly proportional to the weapon yield, did not hold for very high yields. It was possible to develop an empirical

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scaling law which would be valid up to a yield of approximately 500 KT. This empirical relation indicated that the dosage at a given distance would vary with the yield to the 1.2 power. This was true because the source was not a point source, which effect would be more important for the larger yields. It was also found that the larger yield detonations transported and compressed the atmosphere to such an extent that the air attenuation of the gamma radiation was decreased. Both of these factors resulted in an increase of initial gamma radiation dosage greater than that predicted by the simple scaling law.

The observations at Operation UPSHOT-KNOTHOLE with respect to the biological effect of neutrons, verified the information previously obtained from Operation TUMBLER-SNAPPER. Observations indicated that with thin HE system weapons and weapons with no HE, e.g., the Mark 9, the neutron flux was increased to the point at which it produced from one-half to one times as much biological damage as did the gamma radiation at the distances at which the total gamma ray roentgen dosage was in the order of 100 to 1000 roentgens.

In the latter half of the year 1953, the AEC contracted with the RAND Corporation to investigate the probability of significant world-wide radiological contamination which might follow the large scale use of atomic weapons. Members of both the Radiation Branch and the Analysis Branch were consulted by RAND on this problem, and attended meetings concerning it in Santa Monica, California, and in Washington, D. C. The first phase of the study had been completed by the end of the year 1953, and the results were contained in the RAND report on Project Sunshine.

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A detailed examination of the military shielding problem against gamma and neutron radiation was begun during the second half of the year 1953. Members of the Radiation Branch attended a meeting of the AEC Reactor Shielding Group in Chicago. A re-evaluation of the need for shielding information was needed, and such work was to be continued.

Another investigation which was begun during the latter half of the year concerned residual contamination resulting from weapons producing high neutron flux. These weapons were found to produce, when air-detonated, a residual contamination in the immediate vicinity of ground zero, caused by the absorption of neutrons by various elements in the soil. In order to arrive at an estimate of the effect over beaches, which effect would be of particular interest to the Marine Corps, the Beach Erosion Board was asked to supply information concerning the chemical composition of various beaches. Members of the Analysis Branch were performing the detailed calculations in connection with this study.

The following subparagraphs summarize the progress made in nuclear radiation research by the agencies listed, under contracts sponsored by the AFSWP.

(1) National Bureau of Standards.

Under the contract to make a theoretical investigation of the propagation and attenuation of gamma radiation, the problem of the shielding afforded by foxholes against the initial gamma radiation of an air burst was investigated.

Under the contract which called for an analysis of the field measurements of residual gamma energy spectra, a report

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analyzing past field measurements and making recommendations for future measurements was received by the AFSWP. The interested group at the Bureau of Standards worked closely with the group from Evans Signal Laboratory which made measurements during Operation UPSHOT-KNOTHOLE.

Negotiations were made with the Betatron Section at the National Bureau of Standards, for that section to measure the source energy spectra of the gamma radiation from fission products. This work would supply needed data to be used with existing theoretical methods for calculating gamma ray propagation and attenuation.

(2) Brookhaven National Laboratory.

A project designed to measure experimentally the propagation and diffusion of gamma radiation was completed during the year 1953, at Brookhaven National Laboratory. The experiments consisted of suspending a high intensity cobalt source in the air between two towers. The radiation was analyzed with respect to intensity and spectra on the surface of the earth at various distances away from the source, and in circular foxholes at various distances from the source.

d. Activities Transferred from Materiel Branch, Weapons Defense Division.

(1) General.

Effective 1 April 1953, the Materiel Branch, Weapons Defense Division, was inactivated. The responsibility for carrying on such activities of this branch as would continue, was transferred to the Radiation Branch of the Weapons Effects Division. (See par. 3-8-1; par. 3-9-3.) Some personnel of the inactivated Materiel Branch were

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transferred to the Weapons Effects Division, and continued their activities, in the Radiation Branch. These activities and responsibilities included coordination of radiological instrumentation, coordination of radiological protective devices, coordination of radiological decontamination work, responsibility for the emergency instrument cache (located partly in Headquarters, AFSWP, and partly at the alternate command post, Cameron Station), responsibility for AFSWP's portion of the high energy accelerator program for air defense purposes, and the secretariat of the Panel on Radiological Instruments.

(2) Panel on Radiological Instruments.

The following were members of the Panel on Radiological Instruments:

Dr. G. Failla (Chairman), Columbia University

CDR B. H. Andrews, Department of the Navy (replaced by LCDR R. H. Buck, 7 Jan. 1953)

Dr. W. F. Bale, University of Rochester

Dr. G. K. Green, Brookhaven National Laboratory

Dr. F. R. Shonka, Argonne National Laboratory

Dr. R. A. Weiss, Department of the Army

Lt. Col. B. D. Witwer, Department of the Air Force

The following were alternate members:

Mr. T. E. Hedman, Department of the Army

Capt. K. Russell, Department of the Air Force

LCDR W. R. Sams, Department of the Navy

The following were associate members:

Lt. Col. K. W. Beckstrom, Directorate of R&D, USAF (replaced by Mr. Richard Munnikhuysen)

Col. E. G. Bennett, Chemical Corps, USA (replaced by Mr. Joseph Lindwarm)

Lt. Col. R. D. Bowers, Directorate of Plans, USAF.

Mr. R. L. Butenhoff, Atomic Energy Commission

CDR F. W. Chambers, Bu M&S, USN

Dr. R. D. Evans, Joint Panel on Medical Aspects of Atomic Warfare

Mr. J. C. Greene, FCDA

Dr. P. B. King, Jr., Committee on Electronics, RDB

Lt. Col. G. M. McHaney, Army Field Forces, USA, (replaced by Maj. Robert Spiker, AFF, USA)

Dr. L. S. Taylor, National Bureau of Standards

LCDR J. H. Terry, BuAer, USN

The eleventh meeting of the Panel on Radiological Instruments was held 7 January 1953 at Headquarters, AFSWP. The following subjects were discussed or presented:

(1) Correspondence with the Veterans Administration relative to the need for individual dosage records.

(2) Briefing of the Joint Panel on the Medical Aspects of Atomic Warfare concerning the current status of radiac instrument development.

(3) Program guidance for the Committee on Atomic Energy.

(4) Program guidance for the JPMAAW.

(5) The work of the Naval Research Laboratory with the pulsed GM Counter.

(6) Recent instrument evaluation at an overseas test by the Signal Corps, U. S. Army.

(7) Measurement of the residual gamma spectrum.

(8) Proposed radiac instrument evaluation programs of the Army and the Navy for Operation UPSHOT-KNOTHOLE.

(9) Changes in the Army Chemical Corps instrumentation program.

(10) Naval Material Laboratory's evaluation of the AN/PDR-27 for use in emergency monitoring of contaminated water.

The twelfth meeting of the Panel on Radiological Instruments was held 21-22 October 1953. The following items were discussed:

(1') UPSHOT-KNOTHOLE Radiac Program.

(2') Evaluation of the gamma spectrum in the residual field.

(3') Directional data decontamination probe.

3-8-3. Blast and Shock Branch.

a. General Activities.

During the year 1953, personnel of the Blast and Shock Branch, in cooperation with other members of the Weapons Effects Division, were engaged in planning phases of Operations KNOTHOLE, CASTLE, DOMINO, and TEAPOT; coordination in the publication of the change to

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TM 23-200 (see par. 3-8-1d, above); participation in the revision of the "Super Effects Handbook" (see par. 3-8-1e); compilation of the Blast and Shock Branch portion for the revision of "AFSWP Military Effects Program Summary", and the "Big Picture" (see par. 3-8-1f); and reviewing, for technical accuracy, documents published by other DOD agencies and consultants, contractors, and the AEC.

b. Base Surge Investigation.

(See Vol. V, par. 3-8-3a)

Data obtained at the Nevada Proving Grounds and at Dahlgren Proving Ground were being analyzed preparatory to the publication of a comprehensive interim report on the phenomena of the mechanism of base surge. This was a project of the Naval Ordnance Laboratory supported by the AFSWP. The latter continued to support the project in fiscal year 1954 in the amount of $69,700. The contract extension included further small-scale laboratory analysis of Bikini Baker test data, using a pressure tank.

Base surge photography was conducted by the Stanford Research Institute in connection with Phase II of Project Mole, at Camp Cooke, California.

c. Underwater Investigation.

(See Vol. V, par. 3-8-3b.)

The University of Illinois contract dealing with the response of submarine hulls to underwater detonations, which was being supported jointly by the Office of Naval Research and by the AFSWP through the Bureau of Ships, progressed satisfactorily under the supervision

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of Dr. N. M. Newmark. A pressure tank 21 inches in diameter and 36 inches long was devised, in which scaled cylindrical shells were subjected to impulsive loads with controlled pressure-time characteristics. Static and drop tests were also performed. Analytical work was in progress. The goal was to develop relationships between the static tests, dynamic tests, and analytical approaches, in order to obtain a generalized technique for predicting full scale damage.

The project being carried on by the Bureau of Ships, entitled, "The Investigation of the Lethal Ranges of Atomic Weapons against Submarines", was no longer being supported through the Blast and Shock Branch, but was of primary interest to the WIGWAM Group in the Test Division. (See par. 3-10-2*k*.)

Dr. Richard Courant and Dr. J. B. Keller, who were supervising the analytical study of shock generation phenomena at deep submergence at New York University, were requested by the AFSWP to extend their work to include an analysis of the "precursor". This study, under cognizance of the Office of Naval Research, was, as of January 1953, enlarged in scope, but without increase in funds or alteration of existent contractual obligations.

The AFSWP-supported shallow water explosion program being carried on at the Waterways Experiment Station had been all but completed as of the close of the year 1953. Reports on the various phases of the shallow water explosion program had been distributed as of September 1953, and the final report was almost ready for distribution. This report was to include a comprehensive study of cratering, water-surface

waves, shock (air, water, ground), and possible damage effects from underwater bursts in shallow harbors.

The study of the effects of explosions on gravity dams, at Waterways Experiment Station, was being supported by AFSWP funds for fiscal year 1954 in the amount of $100,000. The project was being carried on by the Office of the Chief of Engineers. Parameters being investigated in particular were effect of charge depth, inter-surface coupling characteristics, and propagational intensities. The continuous tests throughout the year were expected to provide a wealth of data for analysis by the staff of Dr. Charles Norris, project consultant.

In March 1953, under the sponsorship of the Blast and Shock Branch, funds in the amount of $8,000 were obligated to the Office of the Chief of Engineers for the implementation of a contract with the Beach Erosion Board. The objective of this project was to determine the probable destructive capacity of water waves with respect to weapon size, detonation position, and beach and harbor geometry. As of the end of the year, a draft of the final report of this study had been submitted to the AFSWP. Publication of the report would conclude the project.

Professor Hans Bleich of Columbia University, had, since June 1951, been supervising research for the Office of Naval Research dealing with the response of submarine structures to underwater explosions at deep submergence. This project, which had been organized largely because of the requirements of the PELICAN Committee, became of major interest to the WIGWAM Group of the Test Division. The Blast and Shock Branch sponsored the project during fiscal year 1953 with AFSWP funds in

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the amount of $38,000. With the beginning of the new fiscal year (1 July 1953) sponsorship of this project was assumed by the WIGWAM Group of Special Field Projects Division. (See par. 3-11-1, 3-11-2.)

d. Underground Explosion Effects.

(See Vol. V, par. 3-8-3c.)

On 22 May 1953, the Chief of Army Engineers received from Dr. N. M. Newmark and Dr. C. H. Norris their final report entitled "Analysis of Skew Target Tests". Essentially, this document contained theoretical explanation of damage observed during the testing.

The contract dealing with the dynamic properties of soils which was being conducted at the Massachusetts Institute of Technology, under Professor Donald W. Taylor for the Chief of Engineers, progressed toward completion during the latter half of the year 1953. As of the close of the year, unconfined sample tests had been made of Dugway clay and of Ottawa and Fort Peck sands.

Phase I of the projects of the Sacramento District, Corps of Engineers, entitled "Small Underground Explosion Tests", was completed as originally planned, during the first half of the year 1953. Additional AFSWP FY 1953 funds were allotted the OCE in February 1953, however, in order that this project, which was being carried out by the Stanford Research Institute, under the supervision of Dr. E. B. Doll, might be extended into the second phase of the study. The primary objective of Phase II was to test the characteristics of soil samples representative of potential target areas.

With the submission of Technical Report No. 5, Underground

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Explosion Test Program, in February 1953, the project for investigating blast effects on tunnels, which was partially supported by the AFSWP through the Chief of Engineers (Army), was completed. The report included all of the test data accumulated during the scaled explosion testing of tunnels.

The contract of the Bureau of Yards and Docks with the Stanford Research Institute, under the supervision of Dr. R. B. Vaile, Jr., and entitled "Studies of the Effect of Earth Cover on Structural Response", showed progress. Dr Vaile requested, and was granted, a contract extension, without additional funds, until June 1954.

In April 1953, the AFSWP, through the Blast and Shock Branch, allotted FY 1953 funds in the amount of $13,500 to the Office of Naval Research for support of a study of shock propagation in soils. This study was being pursued under a contract with the University of California, with Doctors Morrey and Pinney the supervisors. The project was a theoretical study designed to give proper interpretation and direction to the experimental work at the Massachusetts Institute of Technology and the Stanford Research Institute (see above). During the latter half of the year 1953, two reports were released on this project. They were: "Plastic Soil Mechanics Theories", July 1953, and "The Speed of A Plane Compression Wave in a Soil", August 1953.

e. Atmospheric Phenomena Investigation.

(See Vol. V, par. 3-8-3e.)

The contract of the Office of Naval Research with Princeton University, in support of Dr. Walker Bleakney's shock tube

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research, was somewhat diverted from its planned program in order that studies of higher priority might be made. One of the most notable of the latter was on the subject, "Interaction of Shock with Thermal Layer at Non-glancing Angle of Incidence". This was a continuation of Dr. Bleakney's efforts to help explain the lower-than-predicted peak over-pressure at Operation BUSTER and the associated "precursor" noted at Operation TUMBLER. As a part of his regular program, Dr. Bleakney submitted a technical report entitled "The Diffraction of a Shock Wave over a Three Dimensional Object". During the latter half of the year 1953 (beginning FY 1954) the AFSWP did not financially support the shock tube project at Princeton University, which was under contract to the Office of Naval Research. It was anticipated that support might be resumed by the AFSWP, again, in the future, in view of the interest of the Blast and Shock Branch in the project.

In January 1953, AFSWP FY 1953 funds in the amount of $10,000 were obligated for the continuation of Dr. Otto La Porte's shock tube work for the Office of Naval Research at the University of Michigan. In December, AFSWP FY 1954 funds were obligated in the amount of $20,000, in support of the project. At the close of the year 1953 the sector shock tube had been completed and test-fired, and photographic equipment was being installed. Two unclassified reports were issued: "A Study of Attenuation in the Shock Tube", by Robert N. Hollyer, Jr., dated 1 July 1953; and "The Passage of Shock Waves over a Rectangular Block at Various Angles", by Eugene B. Turner, dated August 1953. Dr. La Porte also conducted studies on the loading of structures in the regular reflection region, in support of the Sandia blast model studies program.

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Much of thework in connection with the shock tube at the Ballistic Research Laboratories was devoted, during the first six months of 1953, to preparations for Operation KNOTHOLE. In August 1953, AFSWP FY 1954 funds in the amount of $122,000 were obligated for continuation of the shock tube project under the supervision of Dr. C. W. Lampson at Ballistic Research Laboratories. There was a continuous demand for more data from the three-dimensional tests in the 24-inch shock tube. In order that phenomena associated with the "precursor" might be better understood, experiments were conducted to produce irregular wave forms. Closely allied was a testing program designed to determine the effect of dust loading upon the shock wave. A self-recording gauge was developed for measurement of drag pressures in the field. Good correlation was obtained between pressure time records on structures at Operation KNOTHOLE and results on scaled models in the large shock tube, using small tourmaline gauges.

The Naval Ordnance Laboratory project pertaining to propagation and attenuation of shock waves through the atmosphere, although it entailed a very involved, analytical process, reached a point at which the phenomena associated with shock propagation became well understood. By mid-1953, the Bureau of Ordnance contract advanced to problems dealing with non-homogeneous atmosphere. During the second six months of the year a preliminary report on the main project was issued: "The Influence of Atmospheric Pressure and Temperature Variations on Shock Wave Propagation", by F. Theilheimer and L. Rudlin, (AFSWP 264). It was expected that the NOL final report on blast propagation and

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attenuation through a variable atmosphere would be published during the first half of 1954. Certain experiments were also carried out, in both the shock tube and the field, concerning the effects of atmospheric moisture. A preliminary report, NAVORD 2944, "The Effect of Rain and Fog on Air Blast", by Dr. G. K. Hartmann, was published in August 1953.

During the first six months of the year 1953, the AFSWP considered providing partial support for operation of a four-foot shock tube which Armour Research Foundation was to build for the Air Force, at Gary, Indiana. It was not planned to proceed with construction of the six-foot diameter shock tube designed by the Armour Foundation under its contract with the Air Force, supported by the AFSWP. During the latter half of the year, it was decided that the construction of the six-foot shock tube would be made possible by the pooling of unexpended AFSWP funds with those of the Air Force. The shock tube and its installation had been designed, and, as of the end of the year 1953, awaited the approval of the Air Force for construction to proceed.

In January 1953, the Bureau of Ships entered into contract with the David Taylor Model Basin for the development and construction of the pilot model of a completely self-contained blast gauge for the purpose of measuring pressure-time relationships at future full-scale tests. The AFSWP supported this contract from FY 1953 funds in the amount of $55,000. Success of this project would mean elimination of expensive cables, instrument trailers, power supplies, and labor in gauge installation. The new gauge, it was expected, would also afford far greater flexibility of operation in the field.

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f. Structural Response Investigations and Model Studies.

(See Vol. V, par. 3-8-3g.)

The Blast Model Studies Program being carried on by Sandia Corporation was concerned with height-of-burst studies, "Hill and Dale" studies, loading studies, and instrumentation at full-scale tests. The height-of-burst studies had been completed by the end of the first half of the year 1953. Office studies planned under the "Hill and Dale" program were a study of full-scale phenomenology, pertinent shock tube studies, and engineering approximations; field studies being conducted under the program were those on the effects of gross terrain and on duration effects, as well as partial scale zenith angle studies. Published during the year, as a result of the Blast Model Studies Program, were the following:

(1) "Self Shielding from Blast Waves by Structural Wings", by C. Hudson, July 1953. (AFSWP 225)

(2) "Methods of Estimating Blast Loading on Simple Structures", by L. J. Vortman and M. L. Merritt, September 1953. (AFSWP 226)

(3) "Blast Loading from a Scaled Explosion on a Scaled GREENHOUSE Structure", by R. D. Jones, September 1953. (AFSWP 227)

The program, "The Effect of Transient Disturbances on Structures", under the supervision of Dr. L. S. Jacobsen at Stanford University, was renewed for FY 1953 through the Office, Chief of Engineers. During Dr. Jacobsen's visit to Europe, Professor Harry

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Williams was charged with completing the program under contract.

The program at the University of Illinois under the supervision of Dr. Nathan M. Newmark was formerly administered by the Office of Naval Research. In November 1952, the AFSWP obligated FY 1953 funds in the amount of $30,000 to the Office, Chief of Engineers (Army), for implementation of the current contract, effective as of 1 February 1953. Beam-column joint testing was being analyzed during the year 1953, while laboratory experimentation was being devoted to varying reinforcement steel parameters. The University requested a six months extension on this contract, and was expected to complete the work in July 1954.

The walls and panels testing at the Massachusetts Institute of Technology, supervised by Dr. Robert J. Hansen, was completed. A draft of the final report was reviewed by Headquarters, AFSWP, and by the Office, Chief of Engineers.

Three technical reports came to the AFSWP, through the Office, Chief of Engineers, from Stanford University, where Professors Harry A. Williams and J. R. Benjamin were supervising the research on shear walls. These reports pertained to the very extensive skew tests made on reinforced brick and concrete walls without openings. Research was being continued on walls with openings.

On 1 April 1953, AFSWP FY 1953 funds in the amount of $7,000 were obligated to the Bureau of Yards and Docks for continuation of the "Structural Steel Connections" contract at the University of Michigan. This extension was for the completion of Dr. Bruce G. Johnston's

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analytical work and the conclusion of the project. At the end of the year, Professor Johnston's monograph was well along toward publication.

The field and analytical work performed by the Forestry Service under their contract to investigate effects of an atomic explosion on forest areas contributed greatly not only to knowledge relative to forest stands and urban areas, but also toward a better understanding of the phenomenon of the "precursor" and its associated dynamic drag characteristics. Much of the work done on this project in 1953 was associated with Operations TUMBLER-SNAPPER and KNOTHOLE. Following the research in connection with TUMBLER-SNAPPER the following reports were published:

(1) "Primary Ignitions Following Atomic Attack on Urban Forests - Transient Exterior Fuels", June 1953. (AFSWP 413)

(2) "Forest Fuels Blast Studies", UCLA, July 1953.

(3) "Sound Velocity Above Green Vegetation Following Atomic Detonation", July 1953.

(4) "Wind Profiles in a Small Isolated Forest Stand", September 1953.

(5) "Ignition and Persistent Fires Resulting from Atomic Explosions - Exterior Kindling Fuels", September 1953.

The analytical study, by Professor B. A. Boley of Columbia University, of the transmission and effect of impact and shock forces on various types of engineering structures was under a contract administered by the Office of Naval Research. As of 30 June 1953 it had progressed to the point at which transmisssion of dynamic

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forces through trusses, when applied at a joint, was well enough understood that research could be started on the same problems with the force applied at some other point on the truss. At this point and date, AFSWP support of the project was terminated.

With the availability of new full-scale test data, and with new methods of analyzing structural response to dynamic loading, it appeared probable that useful data might be obtained by a more refined analysis of atomic bombing damage to Hiroshima and Nagasaki. In April 1953, Dr. Robert J. Hansen, at the Massachusetts Institute of Technology, undertook this study for the Office of the Chief of Engineers, with support of AFSWP FY 1953 funds in the amount of $11,000. In October 1953, funds for FY 1954 were obligated to the project, in the amount of $4,800, to cover analysis of additional damage incidents.

g. Height of Burst Panel.

(See Vol. V, par. 3-8-3h.)

The third meeting of the Height of Burst Panel was held at headquarters, AFSWP, on 30 January 1953. Members present were:

Dr. John von Neumann, Chairman

Dr. Walker Bleakney

Dr. G. K. Hartmann

Professor Hoyt C. Hottel

Dr. C. W. Lampson

Dr. Walter A. McNair

Lt. Col. Bruce D. Jones, Executive Secretary

The following conclusions were reached:

(1) The current height-of-burst curves, with instructions

contained in TM 23-200, should be used for operational purposes.

(2) If feasible, a future airburst should be planned for a scaled height of approximately 1300 feet.

(3) If current studies indicate desirability of use of atomic weapons for air defense purposes, the characteristics of energy partition, and effects of an atomic bomb exploded at high altitudes (30,000 feet or more) would be of importance, and, being uncertain, should be explored both analytically and experimentally.

(4) Available information would indicate that rain should not have significant effect on blast attenuation.

h. Conferences and Committees.

A conference on gravity dams was held at headquarters, AFSWP, on 8 and 9 October 1953. Present were representatives from the Office of Chief of Engineers, the Waterways Experiment Station, the Naval Ordnance Laboratory, the Bureau of Yards and Docks, the Air Force, and the AFSWP, as well as Dr. Norris of MIT and Dr. Arons of Amherst College. The purpose of the conference was to insure, insofar as possible, that the experimental program at the Waterways Experiment Station would satisfy the requirements of the Army, the Navy, the Air Force, and the AFSWP, as supporting agencies. The conference provided an excellent opportunity for interchange of information between the WES experimental program (see par. 3-8-3c, above) and the Air Force-sponsored analytical study at MIT.

A conference was held at headquarters, AFSWP, on 19 and 20 November 1953, with technical representatives of the Services in

attendance. Subjects discussed were ground and water effects phenomena, as they influenced the "Big Picture". (See par. 3-8-1f.)

Another "Big Picture" conference was held at headquarters, AFSWP, on 16 and 17 December 1953. This conference concluded the participation of the Blast Branch in the technical phase of the "Big Picture". Discussed were the technical phase of basic air blast measurements and phenomena, and air blast damage to structures, aircraft, and naval craft.

On 14 December 1953, a conference was held at AFSWP headquarters for the purpose of discussing AFSWP-supported underground research projects, and to formulate plans for bringing those projects to successful conclusions. Present at the conference were representatives of the Office of the Chief of Engineers, the Engineer Research and Development Laboratory, the Ballistic Research Laboratories, the Office of Naval Research, Sandia Corporation, the University of California, the Stanford Research Institute, and the AFSWP. It was decided to establish a committee composed of representatives of the principals involved in executing the projects. Through the medium of this committee there would be free interchange of information and ideas, and an evaluation of the work status. The committee would critically examine existing data and knowledge relating to earth shock, earth shock loading, and the response of buried structures to earth shock produced by surface and underground nuclear explosions, and would draw the best possible conclusions in regard to prediction of these effects.

A temporary panel was being formed to establish interim

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criteria for predicting water shock damage to ships under attack by atomic weapons.

3-8-4. Analysis Branch.

a. Technical Analysis Reports.

The first of a series of technical analysis reports, prepared by the Analysis Branch on subjects of current military interest in the weapons effects field, concerned the relative importance of nuclear radiation from atomic weapons detonated at high altitudes. This report compared the nuclear radiation liberated from weapons of various types at high altitudes, with the blast and thermal radiation. The conclusion drawn was that, under certain conditions of weapons design and burst altitudes, nuclear radiation, affecting crew members, might be the primary agent in arresting enemy aircraft raids, and that the problem of air-to-air delivery of "thin" HE atomic weapons should be reconsidered, with a critical evaluation of the radiation hazards. This report was numbered as AFSWP-500.

AFSWP-501 was a report entitled "The Residual Radiological Hazard from Air Detonation of Atomic Weapons in the Rain". It was concluded that for yields of 8 KT or more, detonated under the most adverse weather conditions, the maximum residual radiation dosage would not exceed 100 roentgens. For yields smaller than 8 KT, the residual radioactive material under very adverse weather conditions might prove a hazard to personnel in a relatively small area.

b. Other Studies.

In addition to the technical analysis reports listed

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above, the following studies were made or were continuing during the year 1953:

(1) A study of crater dimensions in soil and rock to determine the relationship of the dimensions to the gross characteristics of the material surrounding the explosive.

(2) Determination of the characteristics of precursor blast wave formation and the associated blast effects.

(3) A study of high altitude blast correction factors.

(4) The study of gamma transport and absorption equations as applied to the point isotropic source (fire-ball) and the distributed isotropic source (the atomic radiation cloud).

(5) A study of the residual radiation dose rate resulting from a distributed source, and the amount of protection afforded by foxholes and other types of field fortifications from nuclear radiation.

(6) Damage prediction on targets, involving the combined effects of blast and shock, and thermal and nuclear radiation on complex target arrays.

(7) Scaling corrections for neutron fluxes and gamma radiation with yield for various types of weapons.

(8) An evaluation of the current concepts of neutron biological effects.

(9) An evaluation of the biomedical effects of gamma radiation.

(10) An evaluation of the biomedical effects of blast and shock injury.

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(11) A study of the combined biomedical effects of nuclear radiation (gamma and neutron) with thermal radiation and blast and shock.

(12) A re-evaluation of existing crater data (HE and nuclear. While this study had, currently, led to no significant changes in the information on the relationship of scaled crater radius to scaled depth of charge and soil type, further attention was being given to the manner in which these relationships should be presented.

(13) Development of burn casualty prediction techniques, utilizing recent laboratory test information on uniform protection.

(14) Prediction of radiological contamination resulting from surface and underground detonations of atomic weapons.

(15) A study of the propagation and attenuation of shock waves in stratified soil.

(16) A study in regard to the employment of nuclear weapons as a means of destroying tunnels.

(17) Investigation of the effects of loss of siding on the response of an industrial building to blast loading.

(18) Revision of the damage criteria for structures, as shown in TM 23-200.

(19) A detailed study of all test results on military equipment.

(20) A study on yield selections for atomic warheads for use with ground-to-air missiles.

(21) A study of target analysis systems in current use.

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(22) A study (at the request of the Medical Branch) concerning radiation damage to humans and animals.

(23) A review of some theoretical work on thermal radiation problems (at the request of the Radiation Branch).

(24) Chart presentation of data predicting casualties versus ground range for various target classes in the case of nuclear bursts under specified conditions, with yields ranging from 20 KT to 40 MT.

(25) A review of blast casualties and mechanical injuries from British World War II experience, Hiroshima and Nagasaki, and the Texas City disaster.

(26) A study on nitrogen-capture gamma radiation from fission bombs.

(27) A study on the source nature and air propagation of fission fragment gamma radiations.

c. Test Participation.

The Analysis Branch assisted in the preparation of the basic thermal and blast sections of the TUMBLER-SNAPPER final report. The Branch acted in an advisory capacity in setting up the radiological safety group for Operation UPSHOT-KNOTHOLE, with respect to operating procedures and material, and in the general preparations necessary to make the group operational. During Operation UPSHOT-KNOTHOLE, various members of the Branch were called upon for technical advice for the military effects program. In addition, the Analysis Branch provided technical assistance in the editing and review of program reports, with

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particular emphasis on those programs dealing with thermal effects, nuclear air-blast measurements, structural effects, and the biomedical projects.

3-8-5. Effects Application Branch.

The Effects Application Branch was established within the Weapons Effects Division as of 1 April 1953, a result of the discontinuance of the Weapons Defense Division and the transfer of certain personnel and functions of that Division to the Weapons Effects Division. (See par. 3-8-1, general introduction.) The new branch was assigned the following functions:

a. Evaluation of Weapons Effects Data from a Military Viewpoint.

This function comprised a large portion of the time and efforts of the Branch. In addition to the day by day answers to questions of interested individuals, specific activities included the review of documents and publications prepared by other activities, the participation in the weapons test program, evaluation of computing devices, and special studies in regard to weapons effects.

b. Maintenance of Working Level Liaison.

This working level liaison was with representatives of offices and agencies of the Armed Services involved in the military application of effects data, notably Op Nav (Op-36), OCE, OCAFF, and G-3, Hq., USMC. Liaison was carried on by means ranging from telephone conversations and informal meetings, to more formal conferences and symposiums.

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c. Production of Training Materials.

In cooperation with other branches and divisions of Headquarters, AFSWP, the Effects Application Branch participated in the production of various training and indoctrination materials, including publications, slides, and training films.

During the month of April 1953, the preparation of Volume I, Radiological Defense Manual, for reprinting, was completed, and planning was begun for preparation of a revised edition of Volume II of the same series.

In August, the Branch began research toward the compilation of material for presentation of the status of knowledge of atomic weapons effects upon items of military equipment, as part of the "Implementation of Effects Evaluation Study" (Big Picture).

d. Assistance to Coordinator of Civil Defense Liaison.

The workload of the Effects Application Branch in connection with dissemination of atomic weapons test data to the Federal Civil Defense Administration was heavy throughout the year. Extensive staff work was necessitated in reviewing weapons tests reports to determine their suitability for transmission to the FCDA. (See Vol. V, par. 3-9-1a.) This work was carried on with guidance from Mr. Sherwood Smith, the AFSWP Coordinator of Civil Defense Liaison.

The following is a tabulation of atomic weapons test reports processed during the year 1953 for possible dissemination to the Federal Civil Defense Administration. The figures include those processed by the Weapons Defense Division during the period 1 January through 31 March 1953 (see par. 3-9-1a).

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Reports Rec'd.	Reports Reviewed	Review Pending	Direct to FCDA	Via AEC	Awaiting AEC Concurrence	Withheld
295	268	50	88	44	13	123

3-8-6. Medical Branch.

The Medical Branch functioned as a part of the Weapons Defense Division until the latter was discontinued, as such, on 1 April 1953. As of that date, the Medical Branch became a part of the Weapons Effects Division, without change in personnel or functions. (See par. 3-8-1, above.)

AFSWP-sponsored projects in medical research continued at medical installations throughout the country. During the first half of the year 1953, the following contracts were awarded:

Thermal Program

University of Rochester - $11,130

Radiation Program

Naval Radiological Defense Laboratory, $35,000

National Institutes of Health, $33,570

University of Rochester (AEC Project), $65,000

Later in the year, a new contract on "A Study of Animal Irradiation Data" was awarded to E. H. Smith and Company of Silver Spring, Maryland, in the amount of $15,000, while Dr. James D. Hardy of the University of Pennsylvania was awarded a contract in the amount of $22,114 for the continuation of studies on the transmission of thermal radiation through skin, and its reflectivity from skin.

Several contracts were terminated during the year. The Naval

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Radiological Defense Laboratory successfully completed studies on the effects of thermal and ionizing radiation on animals. Cornell University Medical College terminated studies on the effect of thermal radiation upon human skin. (This termination was the result of the transfer of the principal investigator, Dr. James D. Hardy, to the University of Pennsylvania, as indicated above.) Research on pathologic physiology and experimental therapy of burned animals and men, at the Medical College of South Carolina, was terminated because of the inconclusive nature of results. Studies at Hahnemann Medical College on physiological and biochemical effects of thermal radiation on animals were terminated as a result of a change in the AFSWP interest in this field. The contract of the National Bureau of Standards on relative biological effectiveness of ionizing radiation was completed.

A significant research accomplishment during the year 1953 was the evaluation of blood and antibiotics in the treatment of radiation sickness. It was shown conclusively that neither should be given indiscriminately, since they had little effect on over-all mortality. Both should be used as indicated by the clinical course of the patient. Studies on whole body irradiation of humans would indicate that current concepts of tolerance levels might well be conservative. In fact, the emphasis in the research program was shifting from thermal studies to the effects of whole body ionizing radiation in humans. Particular emphasis was placed upon the search for a laboratory test applicable to humans which would be of diagnostic value in determining radiation injury. At both the tenth and the eleventh meetings of the Panel on Thermal Radiation (see par. 3-8-2b), the biomedical portion of the pro-

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gram was reviewed, as was the position of the AFSWP in the field of thermal research.

The Medical Branch continued to monitor the course for medical officers at Reed College and Oak Ridge National Laboratory. It was indicated late in the year 1953 that Service support of this course might not be forthcoming in the future.

The Medical Branch continued active liaison with medical representatives of the Federal Civil Defense Administration, coordinating all medical test data transmitted to the FCDA under directives from the Joint Chiefs of Staff. The Branch also continued to work with the Civil Effects Test Group, AEC.

During the year the members of the Medical Branch reviewed numerous articles and reports dealing with the medical aspects of atomic warfare and its effects, gave lectures on that and related subjects, and participated in a number of conferences on pertinent subject matter.

3-8-7. Technical Library Branch.

a. General.

There was no change in the organizational set up of the Technical Library Branch during the year 1953. During the first half of the year, however, there was an administrative change. The Chief, Weapons Effects Division, delegated to the Executive Officer of the Division the over-all supervision of the Technical Library Branch, with the Chief, Technical Library Branch, reporting directly to the Executive Officer. In a procedural change, the Chief, Technical Library Branch, was authorized a direct mail channel with the Office of

the Adjutant General, AFSWP, for the receipt of incoming mail and dispatch of outgoing correspondence on purely routine library matters. Any policy changes in the Branch continued to be cleared through the Chief, Weapons Effects Division, and the Deputy Chief of Staff, Technical Services. During the latter half of the year, the above-mentioned procedural change was further amplified to allow the Technical Library direct coordination with staff agencies of Headquarters, AFSWP, on routine matters of mutual concern, without submission to the Chief, Weapons Effects Division, and Deputy Chief of Staff, Technical Services. This procedure relieved these two officers of coordination on purely routine matters of no direct interest to them, and was most effective in dealing with matters of photography, of mutual concern to the Operations and Training Division and the Technical Library Branch.

b. Document Library Section.

The work of the Document Library Section is described under the following headings:

(1) Transmittal of Reports to FCDA.

The forwarding of weapons test reports, associated research reports, and allied data to the Federal Civil Defense Administration continued to be a sizable workload during the year 1953. Matters of policy in connection with AFSWP-FCDA arrangements for transmittal of reports are discussed elsewhere. (See par. 3-7-1a ; see also Vol. V, par. 3-9-1a; 3-8-5b(1).) In addition to the actual documents transmitted, two lists, "List of Reports on Thermal Radiation" (12 pages) and "List of Documents on Blast Effects on Structures

(Excluding Aircraft and Ships Structure)" (49 pages), were prepared for the FCDA in order that that organization might be cognizant of the many reports available in these two general fields of atomic weapons effects. The FCDA was invited to request the reports in which its personnel were interested. In cases in which the AFSWP had only one copy of a report, this copy would be made available to FCDA personnel in the AFSWP Technical Library. It was believed that the furnishing of such lists to the FCDA would further fulfill the responsibility assigned the AFSWP by the Chiefs of the three Services, and would serve as additional evidence of the desire of the AFSWP to cooperate with the FCDA to the greatest extent possible. It was planned to prepare for the FCDA, lists of reports in other categories of effects information.

During the second half of the year 1953, a change in policy permitted transmission of "height-of-burst" data to the FCDA. This called for a review of documents previously withheld, several of which were transmitted to the FCDA under the new policy interpretation. This same policy change removed the former objections to transmittal of a deleted version of "Capabilities of Atomic Weapons" (TM 23-200). Deletions in the three copies prepared and forwarded to the FCDA consisted of information of purely military nature, which would have no use in civilian defense. Statistics on review of documents for transmittal to the FCDA may be found in the history of the Effects Application Branch, paragraph 3-8-5, above.

(2) Distribution of Reports to DOD Organizations.

The Armed Forces Special Weapons Project continued

to receive, from either the Los Alamos Scientific Laboratory or the Directorate of Weapons Effects Tests, Field Command, a draft copy of each atomic weapons test report. Such drafts were reviewed by AFSWP personnel, and each was placed in one of sixteen established distribution categories which were approved by the Acting Chief, AFSWP, on 11 May 1953. Three of these categories covered highly sensitive information on weapon design, weapon function measurement, and comprehensive summaries. Reports falling in these categories would receive limited distribution.

(3) Weapons Test Reports Group.

A meeting of the Weapons Test Reports Group was held at Oak Ridge, Tennessee, on 16 January 1953. A "Cumulative Subject Guide to Weapons Test Reports" was instituted, to be published periodically at Oak Ridge, and containing a title list of all weapons test reports beginning with those from Operation GREENHOUSE. The reports would be listed by series, but the document would also contain an author and subject cross-index. Another meeting of the Weapons Test Reports Group was held at the AEC Headquarters, Washington, D. C., on 2 July 1953. Before the close of the year, the fourth revision of the guide to weapons test reports had been published. Several changes had been made to increase its usefulness, among them, the listing of CROSSROADS and SANDSTONE reports. A supplement was also issued, covering the preliminary reports from UPSHOT-KNOTHOLE. The following figures, covering reports published at Oak Ridge, show the growth of the test reports program:

[redacted]

	1952	1953
Number of Reports Printed	141	199
Number of Printed Copies	25,584	41,879
Number of Printed pages	2,600,700	3,757,720

(4) Weapons Data Indexing Group.

(See Vol. V, par. 3-8-5b(2)(d).)

The fifth meeting of the Weapons Data Indexing Group was held at the headquarters of the Armed Forces Special Weapons Project, 20-24 April 1953. It was attended by representatives of the Atomic Energy Commission (Headquarters), Oak Ridge, Los Alamos Scientific Laboratory, Sandia Corporation, the University of California Radiation Laboratory, Kirtland Special Weapons Center, AFSWP Field Command, and AFSWP Technical Library. Later in the year the group met at the University of California Radiation Laboratory , Berkeley, California. At these meetings consolidations of existing cataloging documents, additional subject headings, and new fields of interest for incorporation were discussed. Within the AFSWP Technical Library, the processing of reports for the library index, and the increasing cooperative relationship with other technical libraries, proved helpful. It was believed that the cooperative index increased by 50 percent the efficiency with which technical reference material was made available.

(5) New Reports Series.

Two new types of reports were published by the AFSWP during the year 1953. One series was known as Technical Analysis Reports (AFSWP 500-599); the other series was called Technical Staff Studies (AFSWP 600-699).

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(6) Statistical Data.

Library Service

For AFSWP Personnel from Reference Material at Hand	15,858
For AFSWP Personnel, of Material Involving Correspondence	730
Inter-Library Loans	564
Requests Resulting from Circulated Library Accession Lists	1,003
General Library Literature Circulation (Periodicals and Reference Books)	98

Library Accessions

(Weapons Tests Reports, Reports of Contractors, and Miscellaneous Reports)	10,921

Library Reports Cataloged

Other than for Weapons Data Index	4,612
Cataloged and Abstracted for Weapons Data Index	130

Weapons Data Index Card Distribution

AFSWP Card Set Distribution (Averaging 8 cards per set)		2,538
Received from other participants in Indexing Program		832
From:		
Los Alamos Scientific Laboratory	36	
Sandia Corporation	215	
Oak Ridge	463	
U. of Cal. Radiation Laboratory	22	
Special Weapons Center, Kirtland AFB	56	
Field Command, AFSWP	40	

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Comparative Statistics

	1 Jul-31 Dec 1952	1 Jan-30 Jun 1953	1 Jul-31 Dec 1953
Total Requests Serviced	7987	9336	8917
Total Acquisitions	6002	5977	4944

During 1953 approximately 1708 copies of test reports were retired to Archives and to Technical Information Service, Oak Ridge, and approximately 2459 documents were certified for destruction.

c. Film Library Section.

(1) Prints of Films from Test Operations.

In accordance with the arrangement made with the AEC in 1952 the AFSWP received "advance issue" prints of the photography from Operation UPSHOT-KNOTHOLE. The much discussed and reworked Photographic Agreement between the AEC and the AFSWP was finally made acceptable to all concerned and was consummated in the latter part of the year 1953. (See Vol. V, par. 3-8-5c(1).)

The AFSWP received, during the latter half of the year 1953, two prints of the SECRET-Security Information-Restricted Data version of the Operation IVY Documentary Film. One print was for JCS use, with the AFSWP acting as custodian. One print was received by each of the Services and by Field Command, AFSWP. Policy on the screening of this film was contained in a memorandum issued by the Chairman of the AEC and forwarded to the AFSWP by the Division of Military Application, AEC. Copies of this policy memorandum were also furnished the three Services and Field Command, AFSWP. An agreement was reached with the Division of Military Application, AEC, whereby that office retained control of the

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TOP-SECRET Restricted Data footage from Operation IVY, and the AFSWP controlled the footage classified SECRET Restricted Data, and below. All footage was located at Lookout Mountain Laboratory, and none would be released without approval of the AEC or the AFSWP.

(2) Motion Picture Service.

A complete, revised version of the AFSWP Film Catalog, "Edited Motion Picture Films on Atomic Energy Subjects," with a classified supplement thereto, was prepared at the direction of the Chief, AFSWP. Under the date of 15 April 1953, 300 copies of the catalog and 150 copies of the classified supplement were printed and distributed to the three Services.

AFSWP Circular No. 1, dated 5 March 1953, set forth the over-all motion picture production program under central control. This was the logical step following the appointment of the Motion Picture Review Board on 5 November 1952.

During the year 1953, a total of 61,255 feet of film on recent atomic tests was incorporated into the Technical Film Library for review, evaluation, and possible use in productions. Film cataloging was accomplished on 36,255 feet of this photography.

Screening prints of the following edited films were received for incorporation into the film library:

"Target Nevada" (SFP-281)

"Fire and Atomic Weapons" (40-19-52)

"Fireball Phenomena at Bikini" (Misc. 38-7928)

"Atomic Bombs at Sea" (MN 7856)

[redacted]

[redacted]

[redacted]

"The Airburst Story" (Misc. 38-7928)

"Atomic Tests TRINITY through BUSTER-JANGLE" (30-16-52)

"USAF Atomic Bomb Delivery Aircraft (Piloted)" (30-17)

"The 280 mm Atomic Shell" (TF 38-1842)

"Operation UPSHOT-KNOTHOLE 1953" (30-18)

"Operation IVY" (21-1)

"U-K Selected Effects Scenes"
"Operation A Bomb" — Proj. 5401
"Operation Hurricane"

"Atom Atoll" (RTAF-147)

"The House in the Middle"

"Operation Doorstep"

Distribution was made of the following AFSWP Productions:

"Atomic Bombs at Sea" (MN 7856)

"The Airburst Story" (Misc. 38-7928)

"Atomic Tests TRINITY through BUSTER-JANGLE" (30-16-52)

"TUMBLER-SNAPPER Technical Report" (Proj. 5301)

"Operation UPSHOT-KNOTHOLE 1953" (30-18)

"UPSHOT-KNOTHOLE Selected Effects Scene" (Proj. 5401)

"USAF Atomic Bomb Delivery Aircraft (Piloted)" (30-17)

"The 280 mm Atomic Shell" (Proj. 22161)

Forty-two editing requests were received and complied with during the year. Such editing included deletions for security reasons for certain films required by the FCDA, and preparation of films for various symposiums, lectures, and screenings.

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Two hundred sixty requests for various types of projection services were met. These screenings were attended by 1543 persons.

(3) Still Photo Service.

Still photo service included photostatic work, lantern slide production, identification photography, press photography, and reproduction of charts and drawings. There was an increase of approximately 25 percent in still photography production in the Film Library Section during the year 1953.

3-8-8. Organization and Key Personnel.

The inactivation of the Weapons Defense Division, as such, on 1 April 1953, and the transfer of some of its functions and personnel to the Weapons Effects Division (see par. 3-8-1) occasioned changes in both the organization and personnel of the Weapons Effects Division. Branches added or incorporated into the Division were the Effects Application Branch (par. 3-8-5) and the Medical Branch (par. 3-8-6). Some personnel from the former Weapons Defense Division were billeted in other branches of the Weapons Effects Division.

Key personnel who reported to the Weapons Effects Division during the year 1953 were:

	Date Reported.
SA Jean-Francois Canu, USN	12 Feb 1953
Mr. Jack R. Kelso	16 Mar 1953
PFC Charles M. Eisenhauer, USA	17 Mar 1953
Lt. Herbert E. Mills, USA	23 Mar 1953

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[redacted]

CDR Henry D. Davison, USN	1 Apr 1953
Lt. Col. George W. E. Daughtry, USMC	1 Apr 1953
Maj. Glenn A. Smith, USA	1 Apr 1953
Maj. John d'H. Hord, USA	1 Apr 1953
LCDR Roger G. Preston, USN	1 Apr 1953
Lt. Col. Louis E. Browning, MC, USA	1 May 1953
LCDR Wayne J. Christenson, USN	14 Jul 1953
Lt. Col. Paul C. Day, USA	1 Aug 1953
Maj. Irl E. Baldwin, USAF	6 Aug 1953
Maj. George Betts, USA	10 Aug 1953
Dr. Robert C. De Hart	12 Aug 1953
Maj. Richard K. Miller, MC, USAF	18 Sep 1953
Pvt. Frederick C. Barstow, USA	25 Oct 1953
Lt. Col. Eugene C. La Vier, USAF	1 Nov 1953
Maj. Julius L. Yucker, USAF	1 Nov 1953
Lt. Marion E. Jones, USA	10 Nov 1953
CDR Roger W. Paine, Jr., USN	16 Nov 1953

Transferred within the Division was Lt. Paul W. Ifland, from the Radiation Branch to the Analysis Branch.

The following left the Division during the year:

CDR Gerald W. Johnson, USN, was separated from the Service in January 1953.

Mr. George Taylor resigned as of 11 January 1953.

CAPT Neil E. Kingsley, USN, was transferred to Weapons Test Division.

Mr. Beauregard Perkins, Jr., transferred to Ballistic Research Laboratories in May 1953.

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Capt. Fremont R. Burdick, USA, left the AFSWP on 6 May 1953.

Lt. Col. Gerald M. McDonnel, MC, USA, left the AFSWP on 1 July 1953.

Mr. Ben Sussholz was granted a year's leave of absence as of 31 August 1953.

Lt. Col. James B. Hartgering, MC, USA, left the AFSWP on 23 September 1953.

LTJG Austin H. Emery, USN, was separated from Service on 20 November 1953.

Maj. Thomas W. Gavey, USAF, left the AFSWP as of 30 November 1953.

Lt. Herbert E. Mills, USA, was relieved from active duty on 28 December 1953.

As of 31 December 1953, the organization of the Weapons Effects Division, with key personnel listed in the respective branches, was as follows:

Chief

Col. G. Frank Blunda, USAF

Administrative Ass't.

Maj. Irl E. Baldwin, USAF

Radiation Branch

Col. Edward B. Giller, USAF

Dr. Herbert Scoville, Jr.*

Lt. Col. Eugene C. La Vier, USAF

Maj. Thomas A. Gibson, Jr., USA

LCDR Roger G. Preston, USN

Maj. John d'H. Hord, USAF

Maj. Julius L. Yucker, Jr., USAF

Mrs. Lucille B. Streets

*Additional duty assignment. See Section

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Blast and Shock Branch

Lt. Col. Bruce D. Jones, USA

Maj. John F. Brandenburg, USA

LCDR Wayne J. Christensen, USN

Maj. George Betts, USA

Capt. Mahlon E. Traylor, Jr., USAF

~~LTJG Austin H. Emerly, USN~~

Mr. Sherwood B. Smith*

Mr. Jack R. Kelso

Analysis Branch

CDR Roger W. Paine, Jr., USN

Lt. Col. Philip S. Gwynn, USAF

Maj. Richard J. Hesse, USA

LT Donald C. Borg, MC, USN

LT Paul W. Ifland, USN

Dr. Leslie D. Gates, Jr.

Dr. Robert C. De Hart

Effects Application Branch.

CDR Henry D. Davison, USN

Lt. Col. George W. E. Daughtry, USMC

Lt. Col. Paul C. Day, USA

Medical Branch

Lt. Col. Louis E. Browning, USA

Maj. Richard K. Miller, USAF

*Additional duty assignment. See Section

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Technical Library Branch

Chief

Lt. Col. John H. Veyette, Jr., USAF

Administrative Ass't

Lt. Marion E. Jones, USA

Document Library Section

Miss Gertrude Camp, Chief Librarian

Miss Kathleen Nolan, Librarian, Cataloging Unit

Mrs. Dot E. Taylor, Reference Librarian
(Formerly Miss Dot Henderson)

Mrs. Ruth E. Tawney, Reference Librarian

Film Library Section

Mr. John Gast

Ph 1 Verlin N. Arnett

3-8-9. Functions of the Division.

As of the close of the year 1953 the functions of the Weapons Effects Division were:

a. Duties of the Chief of the Division.

(1) To report to and advise the Deputy Chief of Staff, Technical Services, on matters pertaining to weapons effects.

(2) To prepare the technical programs pertaining to weapons effects to be implemented at full scale tests, and programs of weapons effects tests and weapons effects phases of developmental tests, and to conduct reviews and analyses of results of the tests, from scientific, phenomenological, and financial standpoints.

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(3) To coordinate the functions of the Division's branches, and to initiate such studies and projects as were feasible, to insure a well rounded program which would meet the needs of the Services in the fields of weapons effects and in the development of defensive measures against atomic weapons.

(4) To prepare budget estimates and their technical justification, and to recommend the allotting of research and development funds of the AFSWP allocation, except for future atomic tests and equipment and techniques relating to atomic weapons; to prepare budget estimates and to recommend allotting of funds for production of training manuals, films, and maintenance of instruments.

(5) To coordinate the dissemination of pertinent data pertaining to weapons effects to the Services and other authorized agencies.

b. Radiation Branch.

(1) To collect, review, and disseminate data, and to support research programs pertaining to thermal and nuclear radiation effects.

(2) To review and evaluate programs for full-scale tests for presentation to the three Services and to the Assistant Secretary of Defense (Research and Development).

(3) To revise the AFSWP Military Effects Program Summary.

(4) To initiate research contracts and to prepare correspondence pertaining thereto.

(5) To prepare budget estimates and reports.

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(6) To maintain contact with the Services, government agencies, and research organizations performing work in this field.

(7) To determine damage criteria due to thermal and nuclear radiation.

(8) To coordinate military research and development in the fields of radiac instruments, individual and collective protective devices, radiological decontamination procedures, water purification, and other similar fields pertaining to atomic defense in accordance with the policies of the Assistant Secretary of Defense (Research and Development).

(9) To maintain working level liaison with representatives of the Armed Services, government agencies, and research organizations engaged in work relating to the development of material of possible use for atomic defense purposes.

(10) To provide the secretariats for the AFSWP Panel on Radiological Instruments and Panel on Thermal Radiation, respectively.

c. Blast and Shock Branch.

(1) To collect, review, and disseminate data, and to support research programs pertaining to blast and shock effects.

(2) To review and evaluate programs for full-scale tests, for presentations to the three Services and the Assistant Secretary of Defense (Research and Development).

(3) To revise the AFSWP military Effects Program Summary.

(4) To initiate research contracts and to prepare correspondence pertaining thereto.

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(5) To prepare budget estimates and reports.

(6) To maintain contact with the Services, other government agencies, and research organizations performing work in this field.

(7) To determine damage criteria due to blast and shock.

d. Analysis Branch.

The Analysis Branch would be responsible for:

(1) Analysis of research and test data pertaining to weapons effects for use by the Services and authorized agencies.

(2) Solution of problems which required analysis of available data.

(3) Continuous review of AFSWP and Service research programs, with notations concerning the effectiveness thereof.

(4) The application of these analyses to research programs and military operations.

(5) The preparation of summaries of research and test data for publication.

(6) The reduction of results of projects and tests pertaining to weapons effects and damage criteria for inclusion in "Capabilities of Atomic Weapons".

e. Medical Branch.

(1) To coordinate and support military research and development in the medical aspects of atomic warfare, in accordance with the policies of the Assistant Secretary of Defense (Research and Development), including associate membership in the Joint Panel on the Medical Aspects of Atomic Warfare.

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between AFSWP personnel; the Assistant for Civil Defense, Office of the Secretary of Defense; and representatives of the Federal Civil Defense Administration. In this connection, to review reports of atomic weapons tests and supporting projects, in order to determine their suitability for transmission to the FCDA.

3. Technical Library Branch.

(1) To collect, index, catalog, and disseminate information on the development, employment, and effects of atomic weapons. This information would be included in reports, documents, still photos, and motion picture film.

(2) To maintain library reference material for use of headquarters, AFSWP, personnel, and to circulate documents to interested staff agencies, both automatically and in reply to specific requests as a result of semi-monthly accession lists.

(3) To coordinate distribution of Weapons Test Reports to DOD activities.

(4) To distribute reports emanating from AFSWP, and those resulting from AFSWP-sponsored research.

(5) To maintain a Cooperative Weapons Data Index for use of personnel of Headquarters, AFSWP, and other authorized DOD personnel.

(6) To transmit and maintain records of reports and data sent to the FCDA.

(7) To coordinate the production and dissemination of motion pictures sponsored by the AFSWP, and to furnish technical assistance in this connection.

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(8) To maintain a library of graphic training aids, slides, charts, and other such materials, for the use of personnel of Headquarters, AFSWP.

(9) To operate a photographic laboratory to meet requirements within the headquarters for production of photographs, photostats, and slides.

(Ref. 197)

This section of the History of the Armed Forces Special Weapons Project is based upon Weapons Effects Secret Memorandum of 3 August 1953, "History of the Weapons Effects Division during the Period 1 January 1953 through 30 June 1953" and Weapons Effects Secret Memorandum of 29 January 1954, "History of the Weapons Effects Division during the Period 1 July 1953 through 31 December 1953".

(Ref. 199)

DTL-070,238

FIRST HISTORY OF AFSWP 1947 - 1954

VOLUME 6 - 1953, CHAPTER 3 - HEADQUARTERS

SECTION 9 OF 14 SECTIONS

THIS SECTION DECLASSIFIED WITH
DELETIONS BY DNA, CHIEF, ISTS

DATE: 10/3/94

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HISTORY OF AFSWP

VOLUME VI - 1953

CHAPTER 3. HEADQUARTERS

SECTION 9. WEAPONS DEFENSE DIVISION

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VOLUME VI - CHAPTER 3

SECTION 9. WEAPONS DEFENSE DIVISION

(1 January 1953 through 31 March 1953)

3-9-1. General.

As a consequence of the study made during the latter half of the year 1952, and the resultant recommendation that the Weapons Defense Division be merged with the Weapons Effects Division (see Vol. V, par. 3-9-1d), the Deputy Chief of Staff, Technical Services, in a memorandum to the Chief of Staff, AFSWP, 24 February 1953, recommended that the Weapons Defense Division be discontinued as of 1 April 1953. (Ref. 200.) Accordingly, that date was made effective by AFSWP General Order No. 6, of 20 March 1953, for the discontinuance of the Weapons Defense Division, and the reassignment of some of its functions and of its personnel. (See par. 3-8-1.)

3-9

This section of the history of the AFSWP for the year 1953 deals with the history of the Weapons Defense Division from 1 January through 31 March 1953. During these last months of the existence of the Weapons Defense Division, as such, it was organized, as during the previous year, into three branches - Planning Branch, Materiel Branch, and Medical Branch. The activities of these branches for the first three months of 1953 will be found in paragraphs headed by their respective names. Certain other activities with which the Division as a whole, or the Chief of the Division, in particular, was concerned, will be covered in the following subparagraphs.

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a. Dissemination of Atomic Weapons Effects Data to the FCDA.

(See Vol. V, par. 3-9-1a.)

The workload of the Weapons Defense Division in connection with the dissemination of atomic weapons test data to the Federal Civil Defense Administration continued to be heavy throughout the period. The work consisted of review of atomic weapons test reports for the purpose of determining the suitability or nonsuitability of each for forwarding to the FCDA, coordination in this respect with the other technical divisions and with the Security Division of Headquarters, AFSWP, and frequent consultations with the Assistant for Civil Defense, Office of the Secretary of Defense. The review was done by various personnel of the Division, especially by those in the Materiel Branch and in the Medical Branch, with guidance and assistance from the Chief of the Division, Captain Ralph A. Hinners, USN, in his capacity as the designated "alternate coordinator" for AFSWP liaison with the Federal Civil Defense Administration. (See Vol. V, par. 3-9-1a.)

On 6 January 1953 a conference was held in the headquarters of the AFSWP, between Mr. Robert L. Corsbie and Mr. Ward Miller of the AEC, and Captain K. V. Dawson, USN, and Captain R. A. Hinners, USN, of Headquarters, AFSWP, for the purpose of discussing informally a guidance list of typical restricted data subjects, concerning which, it was hoped by the AFSWP representatives, the AEC would not object to furnishing information to the FCDA. Mr. Corsbie voiced personal agreement with the new categories, and indicated that he anticipated favorable comment by the AEC when and if the list of categories should be submitted by the

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AFSWP. The list was submitted in a letter dated 8 January 1953, and a favorable reply was received on 16 January, following. With this concurrence, a revised directive for dissemination of data to the FCDA was drafted, and after coordination with the Assistant for Civil Defense, OSD; the Assistant Chief of Staff, G-4, U. S. Army; the Chief of Naval Operations (Op-36); and Deputy Chief of Staff, Operations (AFOAT), USAF, was submitted to the Service Chiefs. The directive, in final form, was approved on 5 March 1953. It stipulated that any weapons effects information might be forwarded to the Federal Civil Defense Administration which would not disclose: (1) the status of development of weapons, (2) the specific U. S. capability, or numbers of weapons in stockpile, (3) weapons design, (4) weapons production rate, or (5) planned operational use of weapons. (Ref. 37.)

AFSWP Administrative Memorandum No. 41, of 8 October 1951 (see Vol. V, par. 3-9-1a), was superseded on 30 January 1953 by AFSWP Administrative Memorandum No. 5, which restated the procedure for dissemination of data from weapons tests and supporting projects to the FCDA. Mr. Sherwood Smith was appointed coordinator of FCDA liaison, in the place of Captain Dawson, USN, soon to leave the AFSWP, and Commander H. D. Davison, USN, was appointed to be alternate coordinator upon the detachment of Captain R. A. Hinners, USN.

During the months of January and February, Captain Hinners, assisted by Commander Davison and by various members of the Weapons Effects Division, prepared a detailed AFSWP comment to the Secretary of Defense on the Project EAST RIVER report, a comprehensive

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survey of the current status of the United States civil defense preparedness which was conducted by Associated Universities, Inc., under the joint auspices of the Department of Defense, the National Security Resources Board, and the Federal Civil Defense Administration. This report, as it affected the AFSWP, was commented upon in the previous volume of this history. Although the AFSWP reply was not made until February 1953, it, also, was recorded in the previous volume. (See Vol. V, par. 3-9-1a.)

b. Discontinuance of Weapons Defense Division.

The Weapons Defense Division was discontinued by AFSWP General Order No. 6, of 20 March 1953. The effective date of discontinuance was 1 April 1953. (See general introduction to paragraph 3-9-1, above.) The functions and personnel of the Division were reassigned as follows:

(1) The functions of coordinating and supporting training for atomic defense, and of providing a chairman and a secretariat for the Joint Radiological Defense Training Panel were assigned to the Operations and Training Division. Dr. K. F. Oerlein, educational specialist, was also assigned to that Division.

(2) All remaining functions and personnel of the Planning Branch, less Sergeant Roberts, USMC, were transferred to the Weapons Effects Division to form the Effects Application Branch. (See par. 3-8-5.) Sergeant Roberts was assigned to the Analysis Branch, Weapons Effects Division.

(3) The Medical Branch was incorporated as such and

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without change, into the Weapons Effects Division. (See par. 3-8-6.)

(4) The Materiel Branch was dissolved, and personnel were reassigned as follows: Lt. Col. Paul C. Day to the Weapons Test Division; all others, to the Radiation Branch of the Weapons Effects Division. (See par. 3-8-2.)

(5) Lt. Col. H. C. Boehm, USMC, former Executive Officer of the Weapons Defense Division, participated in Exercise Desert Rock, during April 1953, as a technical assistant in charge of the equipment demonstration phase of the exercise. As of 30 April 1953, Colonel Boehm was detached from the AFSWP, for duty with the 1st Marine Division in Korea.

(6) Captain R. A. Hinners, USN, Chief of the Weapons Defense Division, was originally scheduled for departure from the AFSWP on 1 April 1953, but his date of detachment was changed to 15 June 1953 to suit the Navy duty schedule involved. In the interim, he was assigned as Acting Chief of the Weapons Effects Division during the month of May, and spent the balance of the period on temporary duty with the Bureau of Ships, in preparation for his new assignment as Director of the Naval Radiological Defense Laboratory, San Francisco, California.

3-9-2. Planning Branch.

a. Training.

(1) Joint Radiological Defense Training Panel.

The sixth meeting of the Joint Radiological Defense Training Panel was held on 12 March 1953. This meeting was chiefly concerned with the future course with respect to the curriculum of the Six

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Weeks Atomic Defense Officers' Course. Also at this time a report on the over-all status of atomic defense training was presented to the members. The Panel recommended that the Chief, AFSWP, question the three Services in regard to the need for the six weeks course.

(2) Six Weeks Atomic Defense Officers' Course.

A total of 50 officers and selected civilians completed the Six Weeks Atomic Defense Officers' Course during the first three months of the year 1953. Of this number, 42 were trained at the Chemical Corps School, Ft. McClellan, Alabama, while 8 took the course at the U. S. Naval Schools Command, Treasure Island, California.

As of 1 April 1953, the total number of graduates from the Atomic Defense Officers' Course was 2669. (See Vol. V, par. 3-9-2a(2).) Breakdown by Services for the recent graduates and for the total number, was as follows:

	1 Jan.-31 Mar. 1953	Total
Army	14	623
Navy	26	921
Air Force	0	576
Marine Corps	2	71
Other*	8	478
	50	2669

*Including USCG, USPHS, U. S. Civilian, and foreign military.

Further data concerning this course will be found under the history of the Operations and Training Division, to which the functions for coordinating and supporting training for atomic defense was transferred as of 1 April 1953.

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(3) Three-Year Radiological Defense Engineers' Course.

(See Vol. V, par. 3-9-2a(3).)

During the first three months of the year 1953, there was no change in the status of the Three-year Radiological Defense Engineers' Course. Two more classes remained to be graduated from the University of California under the current curriculum. (For further information, see the history of the Operations and Training Division for the year 1953.)

(4) Two-Year Nuclear Engineering (Effects) Course.

(See Vol. V, par. 3-9-2a(4).)

There were no changes nor any new statistics to be reported for the Two-Year Nuclear Engineering (Effects) Course during the first three months of the year 1953. Any further information on this course may be found in the section of this history dealing with the Operations and Training Division.

(5) Structural Dynamics Course.

(See Vol. V, par. 3-9-2a(5).)

There were no changes to be recorded concerning the Structural Dynamics Course for the first three months of the year. Further information may be found in the section of the history dealing with the Operations and Training Division for the year 1953.

(6) Training Course for Instructors in Maintenance of Radiac Equipment.

(See Vol. V, par. 3-9-2a(6).)

During the period 1 January 1953 through 31 March

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1953, two classes were graduated from the Training Course for Instructors in Maintenance of Radiac Equipment. There were 19 graduates in the two classes, broken down by Service as follows:

Army	0
Navy	12
Air Force	6
Marine Corps	0
Other	1

These graduates brought the total number of those who had completed the course to 240 as of 1 April 1953.

Further statistics may be found in the history of the Operations and Training Division.

(7) Atomic Defense Correspondence Course.

(See Vol. V, par. 3-9-2a(7).)

There was nothing to report concerning the Atomic Defense Correspondence Course for the first three months of the year 1953. Later information may be found in the section dealing with the history of the Operations and Training Division.

(8) Field Trips for Graduate Students.

There were no field trips for graduate students of defense courses conducted during the first three months of the year 1953. Arrangements were made, however, for all students in the Radiological Defense Engineer Course and in the Nuclear Engineering (Effects) Course to visit the Nevada Proving Grounds during Operation UPSHOT-KNOTHOLE. These students would witness one weapons test as troop observers.

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Arrangements were made with the Director of Weapons Effects Tests to provide a special briefing of these student observers, and to permit them to make a tour of the various effects tests projects during their visit to Nevada Proving Grounds.

(9) Miscellaneous Training Assistance to the Services.

During the first three months of the year, representatives of the Planning Branch and other members of the Weapons Defense Division lectured periodically to classes of medical officers at both the Army and the Navy medical centers on the subjects, "Effects of Atomic Weapons", and "Passive Defense".

b. Publications.

No publications were prepared, revised, or reprinted by the Weapons Defense Division during the last three months of its existence as such. Arrangements were made with the Bureau of Naval Personnel, Department of the Navy, for its supplying, to the AFSWP, 300 copies of the "Handbook of Disaster Planning" when that publication was revised and distributed by the U. S. Naval Civil Engineering Corps School, Port Hueneme, California. This publication was to be issued to the Chemical Corps School, Ft. McClellan, Alabama, the U. S. Naval Schools Command, Treasure Island, California, and, if desired, to the Air Force counterpart of the Six Weeks Atomic Defense Officers' Course, at Lowry AFB, Colorado, for use as a text book for planning against disaster.

c. Motion Picture Project.

The AFSWP basic atomic defense indoctrination and

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training film production program was virtually complete. (See Vol. V, par. 3-9-2c.) No films were produced for this program during the first three months of the year 1953, and no more were contemplated for the series.

3-9-3. Materiel Branch.

a. Panel on Radiological Instruments.

As has been recorded in previous volumes of the history, the Defense Materiel Branch of the Weapons Defense Division, AFSWP, provided the secretariat for the Panel on Radiological Instruments. (See Vol. V, par. 3-9-3a.) One meeting of the Panel, the eleventh, was held in January 1953, while the Defense Materiel Branch was still in existence. Since, however, this activity of the branch was transferred, as of 1 April 1953, to the Radiation Branch of the Weapons Effects Division, the pertinent facts in regard to the eleventh meeting of the Panel are recorded in the section of the history dealing with the Radiation Branch, along with the report of the twelfth meeting of the Panel. (See par. 3-8-2d(2).)

b. Training Aids.

A revised list of all military radiac devices in current use and of those proposed for future adoption, giving pertinent information such as nomenclature, supply stock numbers, approximate unit cost, and description of each device, was published as of 1 January 1953. Copies of this list were sent to the three Service Radiological Defense Engineer Schools, to Field Command, AFSWP, and subordinate units, and to other interested military agencies. It was planned to revise this list every six months, for distribution to agencies having need for such information.

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To supplement the above list, duplicate sets of 3¼" x 4" projection slides (30 slides each), illustrating radiac instruments in current use and those showing the most promise for future adoption, were prepared for use in Headquarters, AFSWP, and for loan to other interested agencies. In addition, several sets of 8" by 10" glossy photographic prints (30 pictures each) of the same instruments as shown in the slides, were prepared for distribution with the lists of radiac instruments.

c. Liaison and Coordination.

In January 1953, Major Hord, member of the Defense Materiel Branch visited the following installations to discuss the matters indicated:

(1) Los Alamos Scientific Laboratory (22-23 January) - Accelerator Program.

(2) U. S. Naval Radiological Defense Laboratory (26 January) - Radiological Decontamination.

(3) Stanford University (27 January) - Project Hydra.

(4) Dugway Proving Grounds (28 January) - Field tests of RW agents.

In February, Lt. Colonel Day, another member of the Branch, visited Sandia Base, [redacted] (Site Able), [redacted] (Site Baker), and [redacted] Site Charlie) for the purpose of discussing AFSWP requirements for radiological safety equipment.

On 25 February 1953, Major Hord visited the Evans Signal Laboratory to discuss Signal Corps participation in the Accelerator Program.

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d. Review of Reports.

During the three months period, members of the Materiel Branch continued to review reports from recent atomic weapons field tests and related research programs, for the purpose of determining whether or not they should be transmitted to the Federal Civil Defense Administration for use in that agency.

3-9-4. Medical Branch.

Representative of the activities of the members of the Medical Branch during the first three months of the year 1953 were the following:

a. Preparation of a study for the Chief, Weapons Defense Division, on the relationship of the Medical Branch with the Naval Radiological Defense Laboratory.

b. Conferences with representatives of the Special Weapons Evaluation Group, on ionizing radiation.

c. Attendance at meetings of the Joint Panel on the Medical Aspects of Atomic Warfare of the Research and Development Board.

d. Conference with Brigadier General William L. Wilson of the Federal Civil Defense Administration, on medical aspects of atomic defense.

e. Conferences relative to the AFSWP-sponsored program for training of medical officers in radiobiology at Reed College.

f. Conferences concerning radiological safety support for Operation UPSHOT-KNOTHOLE.

g. Provision, through coordination with the Surgeons General

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of the Services, for medical support for UPSHOT-KNOTHOLE.

h. Attendance at a National Research Council conference on radiology.

i. Attendance at a conference of the Division of Biology and Medicine, AEC, on infection and immunity as factors in the reaction to whole body irradiation.

j. Review of weapons tests reports for determination of their suitability for dissemination to FCDA.

Further activities of the Medical Branch, following its transfer to the Weapons Effects Division, may be found in paragraph 3-8-6.

3-9-5. Key Personnel.

Chief

CAPT Robert A. Hinners, USN

Executive Officer

Lt. Col. Harold C. Boehm, USMC

Planning Branch

CDR Henry D. Davison, USN

Maj. Glenn A. Smith, USA

Dr. Karl T. Oerlein

Defense Materiel Branch

Lt. Col. Paul C. Day, USA

Maj. John d'H. Hord, USAF

LT Roger G. Preston, USN

Medical Branch

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Lt. Col. Gerald M. McDonnel, MC, USA

[redacted]

Lt. Col. James B. Hartgering, MC, USA

This section of the History of the Armed Forces Special Project is based upon Weapons Defense Secret Memorandum, dated 10 June 1953, "History of Weapons Defense Division, 1 January 1953 through 31 March 1953."

(Ref. 201)

DTL-070,238

FIRST HISTORY OF AFSWP 1947 - 1954

VOLUME 6 - 1953, CHAPTER 3 - HEADQUARTERS

SECTION 10 OF 14 SECTIONS

THIS SECTION DECLASSIFIED WITH
DELETIONS BY DNA, CHIEF, ISTS

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HISTORY OF AFSWP

VOLUME VI - 1953

CHAPTER 3. HEADQUARTERS

SECTION 10. WEAPONS TEST DIVISION

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VOLUME VI - CHAPTER 3.

SECTION 10. WEAPONS TEST DIVISION

3-10-1. General.

During the first half of the year 1953, the Weapons Test Division was engaged in the "roll-up" of Operations BUSTER-JANGLE, TUMBLER-SNAPPER, and IVY, in the execution of Operation UPSHOT-KNOTHOLE, and in the planning for Operations DOMINO, CASTLE, TEAPOT, REDWING, JULEP, HARDTACK, and WIGWAM. During the second half of the year, the Division was engaged in the post-operation phase of Operation UPSHOT-KNOTHOLE, the preparation phase of Operation CASTLE, and the preliminary planning phase of Operation TEAPOT. The detailed planning for Operation WIGWAM was being done by the Special Field Projects Division. (See par. 3-11-10.) Preliminary planning for other future tests — Operations REDWING, JULEP, and HARDTACK — was carried on to a very limited extent by the Division during this period. Operation DOMINO had been cancelled (see par. 3-10-2e). Special activities and projects with which the Division was concerned during the year included the 280 mm (Mk 9) atomic delivery system, soil stabilization, geological survey of the Nevada Proving Grounds, maps of the Nevada Proving Grounds, military radiological safety support at the Nevada Proving Grounds, weapons effects test reports, participation of the Federal Civil Defense Administration in tests, and weather and special cloud phenomena, as applied to atomic tests.

During the second half of the year the Weapons Test Division was reorganized on a functional basis, with the branches redesignated the Planning and Support Branch, and the Test Branch, and with the Military

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Scientific Coordinator added. The history of the activities of the Test Division will, however, be treated under topical headings rather than under the branch designations.

One functional change in the Division was occasioned by the fact that the Directorate of Weapons Effects Tests, Field Command, AFSWP, assumed the responsibility for preparation of reports of continental operations, beginning with the UPSHOT-KNOTHOLE series.

3-10-2. Test Operations.

a. Operation BUSTER-JANGLE.

The last BUSTER-JANGLE report, on the Air Force Structures Program, was received by the AFSWP during the latter half of the year 1953. Operation BUSTER-JANGLE was considered closed, insofar as the Test Division was concerned.

b. Operation TUMBLER-SNAPPER.

The roll-up phase of Operation TUMBLER-SNAPPER was devoted to the preparation of final reports. The last three of these were received by the AFSWP during the second half of the year, making a total of 46 final reports on the Operation which were processed by the Reports Branch before its inactivation (see par 3-10-1; 3-10-3g.).

c. Operation IVY.

As of 31 March 1953, Joint Task Force 7 was assigned as a permanent overseas atomic task force. (Ref. 202.) It therefore assumed all responsibility for the roll-up phase of Operation IVY, and the reports therefrom. This assignment relieved the Armed Forces Special Weapons Project of any responsibility similar to that retained

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all Program Directors of Operation UPSHOT-KNOTHOLE discussed project requirements; movement schedules; soil stabilization; funds; shipping, packaging, and crating; photographic requirements; and various technical ramifications of some of the projects. It was decided that the shot schedule dated 17 December 1952 was satisfactory except for Shots 4 and 8. The yield and the height of burst were uncertain in the case of Shot No. 4. It was deemed advisable to request that UPSHOT No. 8, then scheduled for pre-dawn detonation, be fired in daylight. A revised participation schedule was prepared, based upon the revised shot schedule. Considerable time was devoted to the discussion of soil stabilization and its effect on the various measurements to be recorded. At the time of this conference the Engineer Research and Development Laboratories were engaged in the problem of soil stabilization, which was a matter of importance, since the characteristics of the blast wave would vary for different types of surfaces.

Operation UPSHOT-KNOTHOLE marked the first time in history that an atomic artillery shell was fired from a cannon. (See par. 3-10-3a.)

The Directorate, Weapons Effects Tests, Field Command, AFSWP, had the responsibility for the entire roll-up phase of Operation UPSHOT-KNOTHOLE, which, for the first time, included the responsibility of publishing all the reports. The Reports Branch, which had moved to Albuquerque, New Mexico, (see par. 3-10-1) carried on this function, and, insofar as the Test Division, Headquarters, AFSWP, was concerned, the UPSHOT-KNOTHOLE series of tests was considered closed. The transfer of

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the Reports Branch to Albuquerque, under the Directorate of Weapons Effects Tests, was an effective move, since the preliminary reports of all projects were published within two months after the final detonation.

e. Operation DOMINO.

On 3 March 1953, the AFSWP proposed to the Chiefs of the three Services that the Department of Defense scientific program for Operation DOMINO be limited to the repetition of any vital project that failed in Operation UPSHOT-KNOTHOLE, and to blast measurements for the purpose of providing additional full-scale test data for the height-of-burst curves. The three Services indicated approval, with certain reservations. (Ref. 203.) In a memorandum dated 13 March 1953, the Director of Military Application stated that the need for, and scope of, a DOMINO program could not be decided until July or August 1953. If deemed necessary, such a program would be carried out in the fall of 1953 on four to six weeks notice, and would not exceed five shots, all air drops. (Ref. 204.)

On 25 March 1953, representatives of the Weapons Test Division met with representatives of the Weapons Effects Division to discuss plans for participation in Operation DOMINO. At this meeting a tentative list of test projects was outlined. On 1 April 1953, Dr. E. B. Doll, Director, Military Effects Group, Directorate of Weapons Effects Tests, Field Command, wrote to Dr. H. J. Scoville, Jr., Technical Director, AFSWP, concerning possible future use of Project 3.1 targets of Operation UPSHOT-KNOTHOLE. As a result of this letter, the Commanding General, Field Command, was directed to take the necessary action required

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to preserve Program 3 structures and instrumentation facilities remaining after Operation UPSHOT-KNOTHOLE. During April 1953, representatives of the Weapons Test Division met with Army, Navy, and Air Force representatives for the purpose of discussing the status and scope of Operation DOMINO. Limited Department of Defense participation was stressed.

After this preliminary planning, Operation DOMINO was cancelled by the Atomic Energy Commission, with the firing of the eleventh shot in the UPSHOT-KNOTHOLE series. This unscheduled shot, CLIMAX, was deemed important enough to be included in that series, and its detonation and results precluded the necessity to conduct Operation DOMINO as had been planned.

f. Operation CASTLE.

Operation CASTLE was an AEC developmental test scheduled for February, March, and April 1954, at the Pacific Proving Grounds (expanded to include both Bikini and Eniwetok Atolls). It was planned that seven devices would be detonated in this operation. All shots would be fired from the surface (reefs, barges, or land), and only one shot was expected to be below the megaton range.

Originally it had been established by the Joint Chiefs of Staff that the relationships and responsibilities for Operation CASTLE, with respect to participating agencies and commands, would be substantially as established for Operation IVY. (Ref. 203.) (See also Vol. V, par. 3-10-2d.) The Chief, AFSWP, stated, however, that the non-participation of the AFSWP in the conducting of the operational phases of overseas tests had created difficulty in coordinating the weapons effects

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measurements with other programs, and suggested to the Joint Chiefs of Staff some changes to correct this circumstance. (Ref. 206.) The JCS approved these changes, and, on 24 April 1953, directed that the AFSWP exercise technical direction of weapons effects phases of developmental tests or other tests of atomic weapons, within any task force organization. (Ref. 207.) This added responsibility led to the formation of Task Unit 13, with headquarters at the Directorate of Weapons Effects Tests, Field Command. An agreement was established between the Commander, Joint Task Force 7 and the Chief, AFSWP, for conducting Operation CASTLE. (Ref. 208.) The agencies of each of the Services reported to the Commander, Task Group 7.1, through Task Unit 13, for operation and administrative control on all matters relating to the Department of Defense Weapons Effects Programs. (Ref. 209.) On 13 March 1953, the Commanding General, Field Command, AFSWP, was advised that Operation CASTLE was approaching the detailed planning phase, and was directed to assume responsibility for further planning of DOD Weapons Effects Programs. (Ref. 210.)

On 19 March 1953, the Chief, AFSWP, requested that the Military Liaison Committee seek the concurrence of the Atomic Energy Commission in the use of the IVY classification guide, with amendments, for classification of information pertaining to Operation CASTLE. The Division of Military Application, AEC, concurred in interim use of the IVY classification guide. (Ref. 211.)

The allocation of the first $2,500,000 of research and development money for Operation CASTLE was approved by the Comptroller,

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Office of the Secretary of Defense, on 30 January 1953, and by the Bureau of the Budget on 30 March 1953. Because of the long lead time required for provision of required test facilities at the Pacific Proving Grounds, and the delay in receipt of funds for CASTLE, the AFSWP approved the use of $450,000 of the preliminary planning research and development funds allocated to the AFSWP, for Operation CASTLE. On 18 March 1953, the Research and Development Board informed the AFSWP that the CASTLE programs, as approved, totaled $7,361,750 for direct research and development costs ($5,000,000 for FY 1953 and $2,361,750 for FY 1954). In this same connection, the Research and Development Board also informed the AFSWP that it had recommended to the Secretary of Defense that a preliminary allocation of $2,500,000 in FY 1953 Emergency Funds be approved and made available to the AFSWP. In response to a memorandum from the Secretary of Defense, the AFSWP requested approval for the obligation of up to $3,906,000 for work to be performed by or through the Atomic Energy Commission for the Department of Defense in connection with Operation CASTLE. This request was approved by the Secretary of Defense on 17 April 1953. The AFSWP requested the second $2,500,000 of research and development funds on 21 April 1953. On 13 June 1953 the Assistant Secretary of Defense approved $5,000,000 of FY 1953 research and development funds for Operation CASTLE. All research and development funding for Operation CASTLE was accomplished through Headquarters, AFSWP, for the period 1 January through 30 June 1953.

On 19 February 1953, the incorporation of a military weapons effects test program into Operation CASTLE was approved by the

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Joint Chiefs of Staff. (Ref. 212.) The AFSWP assured the Atomic Energy Commission that the scope of the military effects participation would not jeopardize the primary objective of the test. (Ref. 213.) Details of the Department of Defense weapons effects programs were supplied all project officers on 20 and 23 March 1953, and the entire weapons effects program for Operation CASTLE was forwarded to the Commander, Joint Task Force 7, on 20 March 1953. On 23 June 1953, the AFSWP forwarded a revised shot schedule to the three Services for Operation CASTLE. The Armed Forces Special Weapons Project had 32 weapons effects test projects planned for the operation.

g. Operation TEAPOT.

It was announced on 23 March 1953, by the Military Liaison Committee to the Atomic Energy Commission, that Operation TEAPOT would be scheduled for the Fall of 1954 at the Nevada Proving Grounds. In July 1953, the Chief, AFSWP, was advised through an information copy of a letter from the Chairman of the Atomic Energy Commission that the operational phases of Operation TEAPOT would probably be conducted in the Fall of 1954 or the Spring of 1955. Current planning for the operation, during the year 1953, was ~~were~~, insofar as the Services were concerned, based on the time schedule for the Fall of 1954. Informal information from the AEC indicated, however, that this operation would probably be conducted in the Spring of 1955. Operation TEAPOT was to be a joint AEC-DOD developmental and weapons effects test, respectively. As of the close of the year 1953, the exact number of shots to be fired was not known, but more detailed

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information in this respect was expected to be available early in the year 1954.

In the planning phases of Operation TEAPOT, the Weapons Test Division worked closely with the Weapons Effects Division. Meetings were held at AFSWP headquarters on 31 August 1953 and 14 September 1953, to discuss the feasibility of a full scale test, at high altitude, of a small yield weapon for air defense purposes. A letter from the Chief, AFSWP, to the Services, on 9 October 1953, requested that the latter specify their requirements for a high altitude shot. A few days later, on 14 October 1953, the Chief, AFSWP, dispatched another letter to the Services, requesting information regarding requirements for technical information, and for troop training and indoctrination. This letter further advised that the normal Department of Defense support to the Atomic Energy Commission was expected to be required.

In September 1953, the first official notice of the desire of another nation to participate in the observer program at Camp Desert Rock VI was received. This word came in the form of an unclassified memorandum from the Director of Intelligence, United States Air Force, concerning a Canadian request (also unclassified) for observer spaces at Camp Desert Rock VI. (Ref. 2 14.) On 30 October 1953, a letter from Mr. Lewis L. Strauss, Chairman of the Atomic Energy Commission, to Mr. Val Peterson, Administrator, Federal Civil Defense Administration, advised that NATO nations were not currently permitted to participate in atomic tests. Mr. Strauss believed, although he did not recommend the plan, that it would be feasible for the FCDA to work

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out a plan whereby it would observe for such nations, and release the data to them. The Chief, AFSWP, in a letter dated 10 November 1953, advised the Director of Intelligence, United States Air Force, that, until the date and extent of Operation TEAPOT should be determined, a policy could not be established in regard to the attendance of representatives of other nations. The letter suggested that the Air Member, Canadian Joint Staff, be so advised. (Ref. 215.)

Under the date of 5 November 1953, the Chief, AFSWP, dispatched a letter to the Services containing detailed instructions for the submission of project proposals for Operation TEAPOT. In a first endorsement, dated 12 November 1953, the Assistant Chief of Staff, G-4, U. S. Army, advised the Chief, AFSWP, that the Department of the Army endorsed the inclusion of a high altitude test in Operation TEAPOT, assuming that data obtained [redacted] weapon would provide appropriate and accurate information on the performance of a [redacted] at high altitude. [redacted] capable of delivering weapons [redacted] to altitudes considerably in excess of 40,000 feet. It stated further, that it would be desirable to have information on nuclear explosions at altitudes up to 80,000 feet as soon as it became feasible to obtain such data.

With a letter from the Directorate, Weapons Effects Tests, to the Chief, AFSWP, dated 24 November 1953, a copy of a letter dated 16 November 1953 from the Manager, Santa Fe Operations Office, to the Division of Military Application, AEC, was enclosed. This inclosure stated that the high air burst would create unusual problems in safety for

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the air crew and other participants, but that such problems were not insurmountable. It was indicated that a 10 KT surface burst would create serious contamination and health problems, both on and off the site, which might be so extensive as to result in the abandonment of the continental test site. This letter recommended that the Department of Defense be informed of the requirement for early action to insure a delivery and fuzing system with insurance of safety for all concerned in the high altitude burst, and stated that large-scale surface bursts were unrealistic and inconsistent with the policy of the AEC in regard to safety.

On 7 December 1953, a letter from the Chief, AFSWP, to the Services postponed the date for the submission of detailed project proposals to 15 January 1954. This letter also requested an interim reply to the letter from the Chief, AFSWP, of 14 October 1953 (see above), in order to permit the progress of preliminary planning.

In another letter dated 7 December 1953, the Chief, AFSWP, advised the Army that the AFSWP would be in a better position to determine whether or not the HONEST JOHN rocket would be suitable for delivery method in Operation TEAPOT, after the project proposals of the Services had been received and analyzed. This letter also requested that the Chief, AFSWP, be kept informed, meanwhile, on the progress with the HONEST JOHN in respect to accuracy and reliability.

The Department of the Army, Assistant Chief of Staff, G-4, in a letter to the Chief, AFSWP, dated 15 December 1953, outlined, in a general manner, the Army requirements for Operation TEAPOT.

In a letter to the Chief, AFSWP, also dated 15 December

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1953, the Chief of Naval Operations stated that the Navy would be in a better position to state definitely the desirability or necessity for conducting specific projects, and whether or not special effects shots would be required, after completion of conferences on the analysis of atomic weapons effects. Enclosed with this letter were project proposals and comments from the various bureaus and Naval laboratories, concerning participation in Operation TEAPOT. In another letter, dated 18 December 1953, the Chief of Naval Operations transmitted to the Chief, AFSWP, project proposals for participation in Operation TEAPOT from CINCPAC, COMAIRPAC, COMTRACOMPAC, COMFIFPAC, and COMPHIBPAC.

On 18 December 1953, the Chief, AFSWP, received an information item from the Military Liaison Committee to the Atomic Energy Commission which stated that, the weapons laboratories concurring, the planning date for Operation TEAPOT, to be used by the Atomic Energy Commission, would be the Spring of 1955. The Chief, AFSWP, received also an information copy of a letter from Mr. Lewis L. Strauss, Chairman, AEC, to Mr. Robert LeBaron, Chairman, MLC. This letter was in reply to Mr. LeBaron's letter of 19 August 1953, requesting information relative to the magnitude and scope of Operation TEAPOT. Mr. Strauss advised that specific information could not be furnished as to devices to be tested at TEAPOT because of the pending influence of CASTLE results and of laboratory developments. He stated that specific information would be available after the completion of Operation CASTLE. The letter from Mr. Strauss also advised that the laboratories of the Atomic Energy Commission were using February 1955 as the operational date for planning purposes for Operation TEAPOT.

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The Weapons Test Division formulated an appropriate plan for effectively accomplishing the transfer of responsibilities and functions for Operation TEAPOT from Headquarters, AFSWP, to Field Command, AFSWP. This plan was based on three categories of participation in the operation by the Department of Defense — the weapons effects program, the operational and training type of participation, and the DOD support of the AEC. The plan also took into account the need for understandings and agreements with other major participants in the operation, such as the AEC, the FCDA, and various Service agencies. The plan was submitted to, and approved by, the Chief of Staff, AFSWP.

Chronologically, the operation was divided into four phases, as follows:

(1) Preliminary Phase — that phase in which the objective and scope of weapons effects phases of subject tests would be formulated, and requisite approvals obtained; in which the preliminary budget would be established and the funds obtained; in which basic agreements would be established with other participating agencies; and in which any other necessary preliminary steps would be taken.

(2) Preparation Phase — that phase in which detailed plans, in keeping with the scope and objective, would be evolved; in which funds would be allocated; in which operational and support plans would be formulated, in cooperation with all interested agencies; in which construction work at the test site would be accomplished; and in which such other action would be taken as would insure readiness for conducting weapons effects phases of subject tests at scheduled dates.

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(3) Operational Phase — that phase in which operations, exclusive of construction to insure readiness, would be conducted at the test site to obtain the information and data for which the weapons effects phases of subject tests had been designed; and in which other Department of Defense participation would be carried out.

(4) Post-Operational Phase—that phase in which the data obtained in the weapons effects phase of the subject tests would be analyzed and interpreted; in which appropriate reports of the results would be prepared and published; and in which other necessary "roll-up" action would be taken.

To implement the above plan, the Weapons Test Division would be the headquarters planning and administrative group for the entire operation during the preliminary phase, while other appropriate divisions would be charged with technical planning and requirements. Phases 2, 3, and 4 (above) would be executed under the direction of the Commanding General, Field Command. In order that the transition from the preliminary phase to the preparation phase might be effected in an orderly manner, the Field Command would send representatives to the Weapons Test Division, Headquarters, AFSWP, for liaison throughout the Preliminary Phase. The liaison would include all facets of the operation — technical, fiscal reporting, funding, and organizational aspects.

It was believed that the above plans for Operation TEAPOT were broad enough, and well enough thought out, to be applicable not only for Operation TEAPOT, but for future continental operations as well.

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h. Operation REDWING.

Operation REDWING was the next atomic test planned for the Pacific Proving Grounds after Operation CASTLE. It was estimated that this operation would take place in the Fall of 1955 or the Spring of 1956.

i. Operation JULEP.

Operation JULEP was being planned for the Nevada Proving Grounds, and was scheduled to take place approximately eighteen months after Operation TEAPOT.

j. Operation HARDTACK.

Operation HARDTACK was planned to follow REDWING at the Pacific Proving grounds after an interval of about eighteen months.

k. Operation WIGWAM.

Operation WIGWAM (see Vol. V, par. 3-10-2i) was being planned by the Special Field Projects Division. An account of the progress in preparation for this military weapons effects test scheduled for the Spring of 1955 will, therefore, be found in Section 11 of this chapter.

3-10-3. Other Weapons Test Division Activities.

a. 280 mm (MK 9) Atomic Delivery Device.

On 9 December 1952, the Chief of the Army Field Forces elaborated on the technical needs of the Army Field Forces which would be satisfied by the results of Phase 3 of the plan for testing the atomic shell. (Ref. 216.) This letter outlined in detail the requirements to be fulfilled by tests under the cognizance of the Chief, AFSWP. The responsibilities of the AFSWP in this testing, with the exception of certain logistical functions relative to the issue of various rounds

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of ammunition and dummy nuclear elements, would begin, in general, when the projectile was delivered in the burst position over the target, and would continue until all associated measurements were completed. The requirement for the measurement of the time of flight was an exception; this responsibility would begin when the gun was fired. On 16 January 1953, the Chief, AFSWP, sent four copies of the test plan of the Department of the Army to the Commanding General, Field Command, AFSWP, and on 21 January 1953 a copy was sent to the Director, Division of Military Application, AEC. The Chief of the Army Field Forces transmitted to the Assistant Chief of Staff, G-3, Department of the Army, copies of a plan, "Army Field Forces Plan for the Operational Suitability Testing (OST) of the Shell Atomic Explosive, 280-MM, Mk 9". The Chief, AFSWP, was on the distribution list for copies of the letter and the plan. The latter stated that the Chief of Army Field Forces had been assigned the responsibility for the execution of operational suitability testing of the device, which was fired at Operation UPSHOT-KNOTHOLE. (See par. 3-10-2d.)

b. Soil Stabilization.

Preliminary analysis of the soil of the Nevada Proving Grounds was completed in January 1953 at the Engineer Research and Development Laboratory, Fort Belvoir, Virginia, and the Waterways Experiment Station, Vicksburg, Mississippi. On 15 January 1953, the AFSWP approved a test program proposed by the Office of the Chief of Engineers at a cost of $27,000. Investigation was carried out in the Frenchman Flat area and in the Yucca Flat area. Thermal studies were carried on at

the Engineer Research and Development Laboratory, and soil binding experiments were carried on at the Waterways Experiment Station. A preliminary report was issued in June 1953. Upon adoption of a soil-cement binder, which was selected as the best of a series of binders tested in January, the Directorate of Weapons Effects Tests arranged for stabilization of approximately 700,000 square yards of mat on Frenchman Flat. A preliminary report describing the procedure followed in laying the mat was issued by the Directorate of Weapons Effects Tests in June 1953.

c. Maps and Geological Surveys.

(See Vol. V, par. 3-10-3c; 3-10-3d.)

Eight sheets of the 1:50,000 topographic series covering the Nevada Proving Grounds and the Las Vegas Bombing and Gunnery Range were received from G-2, U. S. Army on 2 January 1953. These eight sheets consisted of maps covering the Proving Grounds alone. Two of the remaining 14 sheets due were received later in the year. It was expected that this map series would be completed early in the year 1954.

The 4-sheet set of 1:250,000 Special Aeronautical Approach Charts of the Nevada Proving Grounds was received from the Air Force Aeronautical Chart and Information Center on 1 March 1953.

A RESTRICTED report concerning the geology of Nye County, Nevada, location of the Nevada Proving Grounds, was ready for distribution on 20 April 1953. An unclassified version of this report was being prepared for transmittal to the United States Geological Survey, through public information channels of the Department of Defense.

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Aerial survey maps of the Pacific Proving Grounds were to be made by the Army Map Service during Operation CASTLE. This project was expected to be completed during the latter half of the year 1954.

d. Military RadSafe Support at Nevada Proving Grounds.

The United States Public Health Service was invited by the Atomic Energy Commission to participate in off-site monitoring for Operation UPSHOT-KNOTHOLE. In January 1953, the Radiological Health Branch, Division of Engineering Resources, United States Public Health Service, submitted to the AFSWP a general plan for this participation.

The Air Research and Development Command, in February 1953, outlined to the Los Alamos Scientific Laboratory the expected and possible fall-out hazards in off-site localities for the relatively large tower shots proposed for UPSHOT. It was strongly recommended by the Air Research and Development Command that the off-site radiological safety personnel be increased beyond the number contemplated.

e. Weather and Special Cloud Phenomena.

Analyses were prepared by various military organizations in regard to the problem of residual hazard from rain-out of radioactive material from atomic air bursts. In general, claims for explcitation of weapons effects under certain weather conditions were excessive. Information from some of the analyses resulted in questions being raised by the Joint Chiefs of Staff. One such question dealt with the degree of real hazard to friendly forces from one's own atomic

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detonation, under continuous rain conditions. This question was partially answered by a special analytical report prepared by the AFSWP, for which the Weapons Test Division supplied technical advice. In general, except for cases of very low yield, radiation hazards were shown to be much less serious than had been supposed. A special meteorological survey and report analyzed and evaluated the feasibility of obtaining certain continuous, interpretable rain conditions at the Nevada Proving Grounds. Results indicated low expectancy of such conditions at that place. The survey further indicated that the cost of a test in continuous rain conditions would be very great and would provide little return for the money invested.

Atomic cloud phenomena associated with Operation IVY raised certain operational questions in the Air Research and Development Command. These questions pertained to the safety of delivery aircraft, not only from radiation from the mushroom cloud which quickly reaches great heights, but also from the extreme and prolonged turbulence from a cloud of such dimensions. Efforts to obtain such data were incorporated in an AEC project to be carried out in connection with Operation CASTLE. In addition, reports of past atomic operations having meteorological aspects were reviewed with the aim of separating purely operational aspects from data of a technical nature.

f. Atomic Weapons at High Altitudes.

During the year 1953, especially during the latter part of the year, considerable interest was evinced within the Services and by the Atomic Energy Commission in regard to the potentialities of atomic weapons for air defense. In order to determine these potentialities,

from both a passive and a defensive standpoint, it was decided to incorporate in Operation TEAPOT the detonation of an atomic device with a yield of about 2 KT, at 40,000 feet. This test program would be limited to basic measurements of blast and of thermal and nuclear radiation, and would not involve the use of biological exposures or of drone aircraft for response studies.

g. Weapons Effects Test Reports.

By 30 June 1953 the Reports Branch, Weapons Test Division, had edited and processed for publication, 43 of the 46 final reports on Operation TUMBLER-SNAPPER. Upon completion of the other three reports, the Reports Branch, as a part of the Weapons Test Division, was inactivated, and the responsibility for preparation of the UPSHOT-KNOTHOLE series of reports was assumed by the Directorate of Weapons Effects Test, Field Command, AFSWP. (See par. 3-10-1.) Although the Weapons Test Division no longer had the responsibility for editing and processing weapons effects test reports, it did have the continuing function of reviewing preliminary reports prior to final publication. All UPSHOT-KNOTHOLE reports, to date, were reviewed by the Division, and pertinent notations were made where necessary and pertinent.

h. FCDA Participation in Tests.

Plans for the participation of the Federal Civil Defense Administration in the military effects phases of Operation UPSHOT-KNOTHOLE in the spring of 1953 had been completed prior to 1 January 1953. One FCDA project was scheduled under Program 3 in the

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Military Effects Group; all other FCDA projects operated under the Civil Effects Group of the AEC.

Later in the year, plans for the FCDA participation in the military effects phases of Operation TEAPOT were discussed, at a meeting held in AFSWP headquarters, by representatives of the FCDA, the AEC, and the AFSWP. It was contemplated that the FCDA would have a rather extensive program in Operation TEAPOT, and that the program would be operated on a project basis, under the Civil Effects Group.

3-10-4. Budget Planning.

The Weapons Test Division advised the Budget and Fiscal Branch of the Logistics Division in the preparation of that portion of the AFSWP budget involving participation in atomic tests. In April 1953, Dr. Scoville, Technical Director, AFSWP, with Lt. Colonel Page and Major Baldwin, of the Test Division, prepared a study of the costs of past and proposed atomic tests for a presentation before the Secretary of Defense. This study incorporated suggestions of how and where such costs might be curtailed. It was planned to review the results of this study from time to time, that it might be kept up to date.

3-10-5. Key Personnel.

The functional reorganization of the Weapons Test Division during the year 1953 was reported in paragraph 3-10-1, above.

Key personnel who reported to the Division during the year were:

Captain W. E. Baranowski, USN

Captain R. H. Maynard, USN

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Lt. Colonel P. C. Day, USA

Lt. Colonel M. L. Williams, USA

LCDR L. I. Estep, USN

Major G. Betts, USA

Those who left the Division during the year were:

Colonel W. W. Campbell, USA, Chief

Lt. Colonel G. B. Page, USA

Lt. Colonel P. C. Day, USA

Lt. Colonel E. A. Martell, USA

Lt. Colonel M. L. Williams, USA

CDR D. E. McCoy, USN

LCDR R. Q. Wilson, USN

Major I. E. Baldwin, USAF

Major G. Betts, USA

Captain J. F. Steelman, USA

Lt. R. A. Burgin, USAF

The organization, with the key personnel, as of 31 December 1953, was as follows:

Chief of the Division

Captain Walter E. Baranowski, USN

Planning and Support Branch

Lt. Colonel George B. Kaiser, USAF

Major William R. Greer, USA

Test Branch

CDR J. H. Lofland, USN

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Lt. Col. George F. Watkins, USAF

LCDR Lewis I. Estep, USN

Military Scientific Coordinator

Captain Russell H. Maynard, USN

3-10-6. Functions of the Division.

As of the close of the year 1953, the functions of the Weapons Test Division were:

a. Duties of the Chief of the Division.

(1) To report to and advise the Deputy Chief of Staff, Technical Services, on matters pertaining to weapons tests.

(2) To prepare preliminary plans and budgets for research and development funds for future atomic tests, and for the extra-military expenses of future atomic tests. To recommend, in coordination with the Chief, Weapons Effects Division, the allotting of the AFSWP allocation of research and development funds for future atomic tests.

(3) To coordinate and integrate the Service requirements for experimental data obtainable through field tests with the Atomic Energy Commission, and to submit recommendations as to the technical participation of the Services in such tests.

(4) To coordinate military participation, and assistance in support of the AEC, in the conduct of field tests.

b. Test Branch

(1) To coordinate and integrate, for specific tests, the Army, Navy, and Air Force requirements for weapons effects data, and to submit recommendations relative to the participation of the Services

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in future atomic tests.

(a) To maintain contacts with the Services, other government agencies, and research organizations performing work on atomic tests.

(b) To establish basic agreements with other agencies for participation in weapons effects phases of specific field tests.

(c) To prepare funding estimates for military phases of tests.

(2) To coordinate, for specific tests, necessary action on matters arising from the preparation, operational, and post operational phases of tests.

c. Planning and Support Branch.

(1) To prepare budget estimates for military phases of future atomic tests.

(2) To coordinate military participation and assistance of a continuing nature in support of the AEC in the conduct of field tests.

(3) To take necessary staff action on matters of a continuing nature related to field tests.

(4) To perform drafting and illustrating services for Headquarters, AFSWP.

(Ref. 197.)

This section of the History of the Armed Forces Special Weapons Project is based upon Weapons Test Secret Memorandum, dated 28 July 1953, "History of the Weapons Test Division . . . 1 January 1953 through 30 June 1953", and Weapons Test Secret Memorandum, dated 29

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January 1954, "History of the Weapons Test Division . . . 1 July 1953 through 31 December 1953".

(Ref. 217.)

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FIRST HISTORY OF AFSWP 1947 - 1954

VOLUME 6 - 1953, CHAPTER 3 - HEADQUARTERS

SECTION 11 OF 14 SECTIONS

THIS SECTION DECLASSIFIED WITH
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DATE: 10/3/94

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HISTORY OF AFSWP

VOLUME VI - 1953

CHAPTER 3. HEADQUARTERS

SECTION 11. SPECIAL FIELD PROJECTS DIVISION

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VOLUME VI - CHAPTER 3

SECTION 11. SPECIAL FIELD PROJECTS DIVISION

3-11-1. Background and Establishment.

The Special Field Projects Division was established under the Deputy Chief of Staff, Technical Services, by General Order No. 1, Headquarters, AFSWP, dated 5 January 1953, effective as of that date. (Ref. 218.) Some background needs to be reviewed to show what projects preceded the establishment of the Division, and the reasons a need was felt for a new division under the Deputy Chief for Technical Services.

A deep underwater test had originally been proposed as a part of Operation CROSSROADS, but had been cancelled at that time. Subsequently, Project HARTWELL, at Massachusetts Institute of Technology, resulted in a report, in September 1950, on the security of overseas transport. This report strongly recommended both the development of an atomic depth charge and a deep underwater test to measure its lethal power. (See Vol. III, par. 3-5-6b(3).)

3-1.

In May 1951, the PELICAN Committee was convened to examine the feasibility of such a test. (See Vol. IV, par. 3-3-7.) The need for conducting a deep underwater test of an atomic weapon was strongly reaffirmed by both the PELICAN Committee and an ad hoc committee which studied the matter in the summer of 1952. (Ref. 219.) On 23 October 1952, the Committee on Atomic Energy, of the Research and Development Board, likewise pointed out the desirability of conducting a deep underwater test. (Ref. 220.) The Joint Chiefs of Staff, on 8 December 1952,

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formally recognized the need for conducting such a test. The Secretary of Defense and the Chairman of the Military Liaison Committee were so informed, and the Chief, Armed Forces Special Weapons Project, was directed to begin the planning and preparations for the test. (Ref. 221.) On 16 December 1952, the Chief, AFSWP, initiated the formation of a planning group which would carry out this directive from the Joint Chiefs of Staff. (Ref. 222.)

The mission of the Planning Group was to prepare preliminary plans and to make preparations for a deep underwater test of an atomic weapon. The code name Operation WIGWAM was assigned to the test by the Chief of Naval Operations on 14 January 1953. (Ref. 223.) (See also Vol. V, par. 3-10-2i.) In order to incorporate the staff of the Planning Group into the administrative organization of Headquarters, AFSWP, the Special Field Projects Division was established under the Deputy Chief of Staff, Technical Services, on 5 January 1953, as indicated above. This incorporation of the WIGWAM Planning Group afforded it the fiscal and administrative facilities of the Armed Forces Special Weapons Project. The organization of the new Division followed closely that proposed in the letter from the Chief, AFSWP, to the Chief of Naval Operations initiating the formation of the Planning Group.

This letter of the Chief, AFSWP, named Commander J. H. Lofland, USN, and Lt. Colonel G. F. Watkins, USAF, both of the Weapons Test Division, as members of the Planning Group. The AFSWP General Order No. 1, of 5 January 1953, designated Commander Lofland as Acting Chief, Special Field Projects Division. Subsequently, Captain John

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Sylvester, USN (selected for Rear Admiral), on duty with the Bureau of Ordnance, was named by the Office of the Chief of Naval Operations to head the Planning Group. On 9 January 1953, Captain Sylvester assumed the duties of Chief of the Special Field Projects Division. Previous to this time, Captain J. R. Z. Reynolds, USN, and Commander Dr. R. Saveker, USN, had been nominated as staff members of the Planning Group by the Chief of the Bureau of Ships. Captain Reynolds, whose previous duty station had been at the Pearl Harbor Naval Shipyard, joined the Division 20 March 1953, to fill the billet of Executive Duty Officer and specialist in submarine construction, with the additional duty of Logistics Officer. Commander Saveker did not join the Division until 7 April, since the Underwater Explosions Research Division, Norfolk Naval Shipyard, of which he was officer-in-charge, was in the midst of preparations for extensive spring testing trials. In the Special Field Projects Division, Commander Saveker filled the billet of Scientific Officer, experienced in underwater testing procedure. Arrangements for the assignment of Commander C. A. Bellis, USN, were made by Captain Sylvester with the Office of the Chief of Naval Operations and the Office of the Chief of Naval Personnel. Commander Bellis, who joined the Division on 21 May 1953, filled the billet of Operations Officer. The requirement for the services of a towing and salvage expert were filled by Commander W. M. Bjork, USN, in a liaison capacity from the Bureau of Ships. Dr. A. B. Focke, who had been employed at the Naval Electronics Laboratory, Point Loma, California, was chosen Technical Director of Operation Wigwam. On 12 February 1953, the Chief of Naval Operations concurred in the selection, and in a letter

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dated 20 February 1953, the Chief, AFSWP, requested that the Chief of the Bureau of Ships take such action as might be necessary to make available the services of Dr. Focke for this position. Immediately following his selection, Dr. Focke began working with the Planning Group, dividing his time, as necessary, between the Naval Electronics Laboratory and Headquarters, AFSWP. In a letter of 12 June 1953, the Chief, Bureau of Ships, informed the Secretary of the Navy that, in order to facilitate the proposed operation, a project had been established at the Naval Electronics Laboratory for consulting services to the Armed Forces Special Weapons Project, including the services of a Technical Director for the test, and such supplementary assistance as might be required. (Ref.224.)

Serving in a liaison capacity to the Planning Group for Operation WIGWAM were the following:

Dr. E. P. Cooper	Naval Radiological Defense Laboratory
CDR K. S. Brown, USN	Bureau of Ships
CDR W. M. Bjork, USN	Bureau of Ships (Towing and Salvage Advisor)
LCDR R. C. Gooding, USN	David Taylor Model Basin
LCDR E. V. Mohl, USN	Hydrographic Office
CAPT W. W. Walker, USN	Office, Chief of Naval Operations
Mr. J. W. Smith	Office of Naval Research
Mr. C. J. Aronson	Naval Ordnance Laboratory
Lt. Col. N. D. Greenburg	Division of Military Application, AEC
Col. Willice E. Groves, USA	Department of the Army

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Others who attended meetings of the Planning Group, but who were not formally designated as liaison members, included Dr. A. H. Keil, LCDR R. F. Coleman, Jr., USN, LCDR Richard Henning, USN, and Dr. Fred Friel, all of the Underwater Explosions Research Division, Norfolk Naval Shipyard; Dr. W. Sette, David Taylor Model Basin; Mr. W. Mostow, Dr. H. J. Plumley, Dr. Paul Fye, and Dr. E. Swift, of the Naval Ordnance Laboratory; Dr. F. J. Weyl and Dr. William Thaler of the Office of Naval Research; and Mr. J. Paul Walsh and Mr. Ralph Blake of the Naval Research Laboratory.

The major test objectives of Operation WIGWAM were as follows:

a. To obtain data on which to base the optimum yield of atomic depth bombs or charges being currently designed and developed.

b. To ascertain the lethal range of atomic depth bombs or charges against submarines and surface ships, particularly from the points of view of hull splitting and internal shock damage.

c. To determine the relative effectiveness of the atomic depth bomb or charge against surface ships in convoy and task force formation, as compared to air or surface burst.

d. To obtain information on which to base safe delivery tactics of the atomic depth bomb or charge.

These objectives were formulated, in the main, by the ad hoc committee of officers in their deliberations concerning feasibility and cost. Ancillary objectives included such studies as effects on marine biology, scientific measurements of the effect on the nuclear explosion,

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of the deep underwater detonation, oceanographic phenomena associated with the explosion and residue, problems of long range detection, and measurement of the pressure versus time history of the shock wave in water and air. (See par. 3-11-2 for objectives of reduced test program.)

3-11-2. Budgetary Matters; Reduction in Scope, Operation WIGWAM.

The estimated total of research and development and extra-military cost that would insure attaining all of the objectives listed above was $36,520,000, of which the R&D portion was $13,250,000. In order to obtain approval for expenditure of these R and D funds, the Chief, AFSWP, on 28 January 1953, sent a letter to the Chairman, Research and Development Board, giving a complete breakdown of the estimated cost, and requesting that the R&D Board approve the expenditure of $13,250,000 of R&D funds for the entire operation, and make an immediate allocation of $5,000,000 from the fiscal year 1953 OSD Emergency Fund, to the AFSWP. (Ref. 225.)

The Committee on Atomic Energy, RDB, approved the conduct of the test as proposed, and recommended to the Chairman, RDB, that the allocation of $5,000,000 be made. On 18 March 1953, the Chairman, Research and Development Board, advised the Chief, AFSWP, that the program for the deep underwater test of an atomic weapon had been reviewed and approved without change. This approval included the cost of $13,250,000 for research and development. In this same letter, the Chairman, RDB, advised that he had recommended to the Secretary of Defense that an allocation of $5,000,000 from the FY 1953 Emergency Fund be approved and made available to the AFSWP. (Ref. 226.)

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By this time, the new Government administration was engaged in establishing its budgetary requirements, which necessitated that all current and contemplated programs of high cost be reviewed. The WIGWAM test, if approved as then proposed, would have been an item of major cost in the program for atomic tests . Effort by the Office of the Secretary of Defense and the National Security Council to complete plans for this particular program resulted in several requests to the AFSWP for additional information to substantiate the need for WIGWAM and to justify its proposed scope. Finally, in a memorandum dated 13 April 1953, the Assistant Secretary of Defense (Atomic Energy) charged the Chief, AFSWP, with preparation of recommendations and supporting information for the guidance of the Department of Defense in its response to the National Security Council concerning a survey being made to determine whether the desired information could be obtained with fewer tests, whether more economy could be used in the testing, and whether military support operations could be less elaborate and costly. (Ref. 227.)

In reply, the Chief, AFSWP, stated that a minimum Operation WIGWAM, much reduced in scope, had been considered. Such an operation would involve a preliminary series of scaled HE experiments, followed by a full scale nuclear test with only two submarine targets at a single depth and at ranges determined by the HE series. This program would provide a reasonable assurance of reducing the current uncertainties on target response and would provide basic data on underwater and air shock. It was emphasized that such a test would provide no information on surface vessel response, internal shock damage, and variations of lethal range

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with depth. The estimated cost of such an operation was $9,300,000, a reduction in total emergency fund budgeting of $27,220,000. (Ref.228.) The Secretary of the Navy furnished additional information on a test of reduced scope to the Secretary of Defense in a letter dated 20 April 1953. (Ref.229.)

On 19 May 1953, the Chief, AFSWP, authorized the use of Research and Development funds allocated to the AFSWP for preliminary planning and preparation for future tests, to meet the initial requirement of the reduced scope WIGWAM. On 20 May 1953, he advised the Assistant Secretary of Defense (Comptroller) of this action, estimating expenditures from these funds, by 30 June 1953, would be approximately $300,000. (Ref.230.)

The test objectives under the reduced WIGWAM program were as follows:

a. The determination and evaluation of the response of two full-scale targets at one depth, so as to obtain information from which a prediction could be made of the maximum range at which lethal hull-splitting damage to a typical submerged submarine could be assured. This information was considered to be the minimum upon which to base offensive tactical use of the atomic depth charge against submarines.

b. The determination of the peak pressure and pressure-time fields in water and air resulting from a nuclear detonation at deep submergence.

c. The determination of the equivalent yield of the weapon used and the dispersion of radioactive contaminants.

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d. The evaluation of surface effects with particular regard to their influence on delivery tactics.

The $300,000 allotted to preliminary planning and preparations for future tests (see above) were used to commence prototype design and construction, and for purchase of long lead time items required for the test.

As of 30 June 1953 the budget for Operation WIGWAM totaled $9,350,000 for Fiscal Year 1954 and Fiscal Year 1955, broken down as follows:

Type of Funds	FY 1954	FY 1955	Total
R&D	$3,100,000	$2,750,000	$5,850,000
Extra Military	750,000	2,750,000	3,500,000
Total	$3,850,000	$5,500,000	$9,350,000

On 21 July 1953, the Special Assistant to the Secretary of Defense stated that recent reductions in the extent of the deep underwater test program had caused concern as to its adequacy, and that to assure the success of this test, additional funds, perhaps up to $2,500,000 for FY 1954, might be warranted. In reply, the Chief, AFSWP, recommended that, if funds could be made available, the scope of Operation WIGWAM be increased to include an additonal submerged target. It was requested that, should the Assistant Secretary of Defense (R&D) concur, steps be taken to obtain authorization for a third target, and to procure the necessary funds and make them available to the AFSWP.

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ATOMIC ENERGY

In line with this prospect of increasing the scope of WIGWAM, Commander Lofland, of the Special Field Projects Division, in an informal conference with Mr. J. C. Starks, Executive Secretary of the Coordinating Committee on Atomic Energy (CAE), Department of Defense, was informed that, if a suitable target could be obtained and instrumented at a total cost not to exceed two million dollars, the CAE might be able to procure the additional funds and arrange for the increase in scope. On 2 October 1953, the Chief, AFSWP, in a letter to the Bureau of Ships, stated that a limited amount of funds might be available for a surface target, and requested the Bureau of Ships to investigate the feasibility of designing and constructing, at a total cost not to exceed $950,000, a surface target which would be capable of yielding meaningful information as to the structural damage to be expected by a surface delivery vessel from a deep underwater nuclear detonation.

On 16 November 1953, in a memorandum to the Chief, AFSWP, the Deputy Assistant Secretary of Defense (R&D) stated that the civilian scientists serving as consultants to his office had recommended the inclusion of a third submerged target in WIGWAM, and directed the AFSWP to initiate a request for the necessary funds. On 24 November, the Assistant Secretary of Defense (R&D) was requested to obtain authorization for an increase in the scope of the test, to include a third submerged target. On 8 December 1953, the Secretary of Defense approved the increase in scope of Operation WIGWAM, at a new total cost of $12,280,000. (Ref. 23.)

3-11-3. Plans and Preparations, WIGWAM.

On 21 May 1953, the Chief, AFSWP, initiated obligation of

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$275,000 of preliminary planning funds by a letter, one to the Chief of Naval Operations, one to the Chief, Bureau of Ships, one to the David Taylor Model Basin, through Bu Ships, and two to the Naval Electronics Laboratory, through Bu Ships. (Ref. 232.) The letter to CNO requested that the Chief of Naval Operations direct the Chief, Bu Ships, to conduct a design study to determine the most suitable type of float for the purpose of instrumentation and target support; make recommendations in the determination of the most suitable type of float; provide plans and contract for the construction or modification of the floating equipment decided upon, subject to final decision by the Chief, AFSWP; approve the use of a lighter, or similar craft if study results indicate such a craft would be suitable. The Chief, AFSWP, stated that funds not to exceed $50,000 were available for the design study and the procurement of working plans, in the event that insufficient funds were available to the Chief, Bu Ships.

The letter to the Chief, Bureau of Ships, concerned target evaluation studies for Operation WIGWAM. It was desired by the AFSWP to procure a study by the Ship Design Division, BuShips, leading to the selection of the type of submerged target best suited to the objectives of the test. The letter listed the factors governing the selection of target types, and the types which had been considered by the Planning Group. Up to $25,000 of preliminary planning money was made available.

The letters to the Naval Electronics Laboratory concerned a free field instrumentation system for underwater explosions, and target response studies using high explosives. Up to $100,000 was made

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available
for the design, construction, and trial testing of a free field instrumentation system for underwater explosions. It was requested that the Commanding Officer, NEL, submit to the Chief, AFSWP, subject to the approval of the Chief, BuShips, a proposal outlining the work to be done. The instrumentation system was to be a prototype of a complete station for use in the target and instrumentation array for Operation WIGWAM. The letter on target response studies proposed to augment work already being done at the Underwater Explosions Research Division, Norfolk Naval Shipyard, and at the David Taylor Model Basin. The Naval Electronics Laboratory was asked to submit a proposal, subject to the approval of the Chief, BuShips, to the Chief, AFSWP, outlining the test program planned by it, at an estimated cost not to exceed $75,000.

The letter to the David Taylor Model Basin stated that the Chief, AFSWP, was prepared to support a program for evaluating the various proposed target handling techniques, using scale models, so as to determine the most feasible and economical method of forming the target array, lowering and raising submerged targets, and handling instruments and instrument floats within the proposed array. It was requested that David Taylor Model Basin submit a proposal to the Chief, AFSWP, subject to the approval of the Chief, BuShips, outlining the test work to be done by them, at a cost not to exceed $25,000.

On 10 June 1953, the Chief, AFSWP, sent a letter to the Chairman, Research and Development Board, giving the complete history of the reduction in scope of Operation WIGWAM, and asking that the request of 28 January 1953 (see par. 3-11-2) be cancelled. The Secretary

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of Defense, by memo dated 15 June 1953, authorized the Chief, AFSWP, to proceed with the planning of Operation WIGWAM on the revised basis outlined in the letter of the Secretary of the Navy dated 20 April 1953. (See par. 3-11-2.)

A conference on target response was held on 16 June at AFSWP headquarters, under the auspices of the Planning Group. The objectives of this meeting were to evolve a definitive theoretical and experimental program for Fiscal Year 1954 which would aid in the selection of ranges for the two WIGWAM targets, and to establish workable procedures for the exchange of information. A comprehensive review was given of theoretical and experimental investigations that had been made. Each agency involved in current work along these lines gave an estimate of it, or indicated the type and extent of investigations planned or feasible for the coming year.

At this conference there was an extensive discussion of the type of target to be exposed. The criteria for a satisfactory target array, from the standpoint of the staff members of the Planning Group were:

a. The two targets should be identical.

b. They should lend themselves to economical and safe handling techniques in an array at sea.

c. Each target should be a gauge, of understood performance.

d. The targets should meet the demands of economy imposed on the test.

e. They should be large enough in pressure hull diameter so as not to be ≠ small scale targets.

f. They should be built of modern-type steel of a thickness of material typical of that of Naval submarines.

Each type of target that might be available for the test was considered in the light of these criteria, and serious objection was brought out against each, with the exception of the one proposed by the Planning Group. This target was a prctotype of the 563 class submarine with a 14½-foot pressure hull diameter constructed of one-inch thick HTS plate. For economy in fabrication, all shell elements were one-dimensional bends. The total displacement would be about four hundred tons. Engines would be simulated by mass weights, and batteries, by concrete masses.

The staff of the Planning Group was to furnish data defining the target, the general shape of the shock wave, hydrostatic pressure, target orientation, and variation of peak pressure with range. The experimental and theoretical investigations would then all be based on the same premises. The Planning Group would act as a clearing house for the exchange of information for the groups making target position predictions.

The David Taylor Model Basin advanced a proposal for research related to Operation WIGWAM, provided that funds could be provided by the AFSWP. This proposal was the result of liaison activities of the Planning Group. The Model Basin itself was prepared to finance no more than a preliminary analysis of model testing trials conducted off Haiti in March 1953. The proposed research program involved complete analysis of the data from those trials, plus additional model trials directed toward more exact predictions for target positioning for the atomic tests. On 2 June

1953, the Chief, AFSWP, advanced $200,000 of FY 1953 preliminary planning and preparation funds to the David Taylor Model Basin. This money was in addition to the $300,000 previously made available to the Planning Group by the Chief, AFSWP.

The letter of 21 May 1953 from the Chief, AFSWP, to the David Taylor Model Basin concerning feasibility studies of target handling techniques for Operation WIGWAM (see above) was endorsed to the DTMB by the Chief, BuShips, on 15 June 1953, with approval of the studies requested. In view, however, of the close inter-relationship of such studies with target evaluation studies and design studies of target supporting floats which were to be accomplished by the Bureau of Ships, the Model Basin was advised that specific tasks would be assigned to it as need should arise in connection with studies being made by the Bureau.

The Chief, Bureau of Ships, endorsed also the letter of 21 May 1953 from the Chief, AFSWP, to the Naval Electronics Laboratory, concerning response studies using high explosives. The endorsement, dated 16 June 1953, noted the requirement for close liaison with the David Taylor Model Basin and the Underwater Explosions Research Division of the Norfolk Naval Shipyard. It was suggested that the project supervisor of NEL visit these two agencies to assist in analysis of past tests, including those of all three stations.

As of 30 June 1953, the salient features of the test philosophy for Operation WIGWAM were:

a'. Target.

The target type most generally acceptable for the

limited objectives of the test was a simplified, conservatively designed prototype of the 563 class submarine. The pressure hull diameter was to be approximately 14 feet, constructed of one-inch HTS steel, with internal stiffeners. The over-all length was to be approximately 120 feet, with each end conical, leaving a cylindrical hull length of approximately three hull diameters. Trim tanks for raising and lowering were to be constructed inside the pressure hull, at each end. Concrete masses and weights were to be installed to simulate machinery and batteries. External tanks were to be of mild steel, faired to the conical ends.

b'. Target Handling.

The Target handling philosophy was still uncertain. There had been no previous experience upon which to base the problem. Every attempt by personnel of the Planning Group staff to arrive at a workable solution, resulted only in profound appreciation of the ~~enormity~~ great size of the task. Every conceivable type of economically feasible float was considered in conjunction with various methods of snubbing or shock absorbing systems. The difficulty lay principally in devising a system for raising and lowering which would permit maintaining the entire system of float and target at slight positive buoyancy from the situation of target ballasted, and trimmed to a slight negative buoyancy through all other conditions of the target, to the situation of a completely bilged target. It was necessary that this system of target and float be capable of being towed in moderate seas, and incorporated and towed in the complete test array.

[redacted]

c'. HE Testing Program.

The HE testing program for FY 1954 was in fairly good order. Three laboratories had sufficient funds for the program planned, and arrangements were made for mutual planning and coordination as the program progressed.

d.' Choice of Weapon.

The most suitable choice of weapon appeared to be one based on [redacted] (See par. 3-7-21.) The advantage of that choice lay in the fields of economy, convenience, and known probable yield. It seemed feasible to use the [redacted] case with a small amount of modification for suspension of the weapon and remote control of the safe handling and firing sequence.

e'. Site.

The site most suitable for Operation WIGWAM, in the opinion of the Planning Group, was in the Eastern Pacific Ocean, in the area lying within the sector bounded by rays south and southwest of San Diego, California, and beyond the 1000 fathom line.

3-11-4. Progress, Operation WIGWAM.

On 7 July 1953, the Chief, AFSWP, informed the Chief of Naval Operations that planning for Operation WIGWAM had progressed to the point at which it was necessary to designate the general area and approximate date for the test. The Chief of Naval Operations was requested to approve, for planning purposes, the general area from south to southwest of San Diego, California, at a distance from that base of between 200 and 600 miles, for conducting the operation during the

[redacted]

period 15 April to 15 May 1955. This request was approved by CNO on 22 July 1953.

By mid-July 1953, a preliminary outline of test proposals had been formulated. In letters to the Chief of Naval Operations, the Chief of Staff, U. S. Army, and the Chief of Staff, U. S. Air Force, the Services were asked to review the program and project summary, and to submit proposals to the Chief, AFSWP, covering the outlined projects. Similar letters were sent, for information, to the Assistant Secretary of Defense (Research and Development) and to the Secretary, Joint Chiefs of Staff. A letter was sent, also, to the Assistant Secretary of Defense (Atomic Energy), requesting that the information contained therein, i.e, the program and project summary for Operation WIGWAM, be forwarded to the Atomic Energy Commission, and that proposals in regard to the operation be solicited from that agency.

In response to the request for project proposals, the Chief of Staff, U. S. Air Force, informed the AFSWP that Air Force interests and participation would be centered primarily about analysis of radioactive samples and long range detection. The Chief of Staff, U. S. Army, advised the AFSWP that the scope of programs and projects as submitted would be adequate to meet Army interests and needs, and that, therefore, project proposals would not be submitted. The Chief of Naval Operations submitted 38 proposals which Naval activities desired to incorporate in Operation WIGWAM.

The Atomic Energy Commission, through the Director of Military Application, stated that it was prepared to provide a weapon of the desired

yield, and to undertake other limited projects, among which was a determination of yield through radiochemistry. Furthermore, provided the AFSWP so requested, ~~they would perform~~ the operation would include a close-in time of arrival measurement, and an air blast measurement. In reply, the Chief, AFSWP, stated that, as a result of conferences of representatives of Headquarters, AFSWP, with representatives of the Office of DMA, Santa Fe Operations Office, Sandia Corporation, and Los Alamos Scientific Laboratory, understandings had been reached upon all the items mentioned in the DMA letter. On 23 December, a letter from the DMA to the AFSWP stated that the two agencies were in substantial agreement on all major points in regard to Operation WIGWAM, and that minor differences could be resolved in the field. (Ref. 233.)

In reply to the AFSWP request, in May 1953, for studies and cost estimates in regard to the target best suited to Operation WIGWAM (see par. 3-11-3), the Bureau of Ships recommended that a full-scale submarine be chosen for the test. This recommendation was based on advantages in cost, in applicability of results, and in determining reliable shock effects. A disadvantage lay in the difficulty of handling. The Bureau's estimate of cost failed, however, to take into account the replacement cost of a full-scale, inactive fleet submarine, which burden would have to be borne by the AFSWP, and for which budget estimates and funds had not been provided. Furthermore, the purpose of the deep underwater test, as stated by the Secretary of the Navy, was to be the obtaining of information concerning the maximum range at which hull-splitting damage to a submerged typical submarine at a single depth would be assured. (Ref. 229) Provision had not been made for determination of lethal shock damage range.

On 26 August 1953, in a letter to the Chief of Naval Operations, the Chief, AFSWP, noted that the choice of targets by the Bureau of Ships rested upon an assumption that full-scale targets were available for use in Operation WIGWAM, and that no expenditure of funds was assumed to be required for the repair or replacement of full-scale targets. It was pointed out that the approval of Congress would have to be obtained for the use of the recommended targets, and that, in addition, preliminary discussions with interested offices of CNO indicated that difficulty might exist in obtaining full-scale targets. For these reasons, target prototypes with specially constructed hulls similar to the K class hull, but with internal framing, capsule ends, and a minimum of structural discontinuances, were deemed by the AFSWP and its Planning Group to be best for the test. The concurrence of the Chief of Naval Operations was requested, and was granted as of 3 October 1953. (Ref.234.)

In view of the proximity of Long Beach Naval Shipyard to the San Diego area, and the availability of that shipyard's large floating crane for launching, test submergence, and post-operation salvage of the targets, assigning to this activity the task of constructing the targets was deemed advisable. Prior to the receipt of CNO approval of target choice, representatives of the Special Field Projects Division and of the Bureau of Ships conferred to discuss the possible assignment of the target construction job to the Long Beach Shipyard. Subsequently the Bureau of Ships requested the shipyard to review the project and to advise as to its ability to handle the task. After careful review, the shipyard advised BuShips that it could handle the project, and requested the

[redacted]

assignment. On 9 October, the Chief, AFSWP, requested the Chief, Bureau of Ships, to construct two targets at the Long Beach Naval Shipyard.

In order to assist the Chief of Naval Operations in early planning for assignment of fleet support for Operation WIGWAM, the AFSWP, on 17 September 1953, submitted an estimate of requirements to CNO. This estimate was revised in a letter to CNO on 25 November 1953. (Ref. 235.)

Based on the concept of the target array for WIGWAM as envisaged by the Planning Group, the Bureau of Ships was requested to employ the services of the David Taylor Model Basin to conduct feasibility studies of handling techniques. The Model Basin constructed two scale models ($\frac{1}{13}$ scale) of targets, lighters, and submarine salvage pontoons. At the end of the year 1953, towing tests were under way at the Basin.

As an intermediate step between model and full-scale testing, it was considered highly desirable to conduct an operational test of a $\frac{1}{3}$ scale target. Since this could be accomplished by utilizing the $\frac{1}{4}$ scale model [redacted] in the custody of the Underwater Explosions Research Division of the Norfolk Naval Shipyard, a test plan was submitted to the Chief of Naval Operations, on 20 November 1953, with the request that the Commander of the Service Force, Atlantic Fleet, be designated to undertake such a test as an evaluation project for the AFSWP. It was suggested that this test be conducted off the Virginia cost in May 1954. On 11 December 1953, CNO directed the Commander in Chief, Atlantic Fleet, to provide the necessary services for conducting this scaled test.

[redacted]

[redacted]

3-11-5. Organization and Key Personnel.

On 1 July 1953, Captain John Sylvester, USN, was promoted to the rank of Rear Admiral. (See par. 3-11-1.) Admiral Sylvester was thereupon assigned duties as Special Assistant to the Chief, AFSWP, and Captain J. R. Z. Reynolds, USN, was named Chief, Special Field Projects Division.

As of 31 December 1953, the organization of the Special Field Projects Division, with key personnel, was as follows:

Chief of the Division.

CAPT James R. Z. Reynolds, USN

Scientific Director

Dr. Alfred B. Focke

Logistics Branch

CAPT James R. Z. Reynolds, USN

Technical Operations Branch

CDR John H. Lofland, Jr., USN*

Lt. Col. George F. Watkins, USAF*

CDR David R. Saveker, USN

Operations and Planning Branch

CDR Charles A. Bellis, USN

*Additional duty assignment. (See par. 3-10-5.)

3-11-6. Functions of the Division.

As of the end of the year 1953, the functions of the Special Field Projects Division were:

[redacted]

[redacted]

a. Duties of the Chief of the Division.

(1) To report to and advise the Deputy Chief of Staff, Technical Services, on matters pertaining to the planning, preparation, and budgeting for the conduct of a special test.

(2) To supervise the activities of the Logistics Branch, Operations and Planning Branch, and Technical Operations Branch, and to formulate policy relative to the functioning of these units.

(3) To provide over-all guidance to the Scientific Director for purposes of coordination.

b. Duty of the Scientific Director.

To supervise and guide the technical phases of planning and preparing for the special test assigned to the Division.

c. Logistics Branch.

(1) To control the following functions within the Division:

(a) Budgeting and fiscal.

(b) Supply and procurement.

(c) Transportation

(d) Construction

(e) Engineering

(2) To maintain pertinent liaison with the Services, with technical bureaus, and with Divisions within the AFSWP.

(3) To perform such other duties as might be assigned.

d. Operations and Planning Branch.

(1) To prepare preliminary plans for the conduct of the operational phases of the test and for the coordination of Service partic-

[redacted]

ipation in such phases.

(2) To conduct investigations and evaluation of the various operational techniques required for the conduct of the test.

(3) To maintain pertinent liaison with the Services, with technical bureaus, and with Divisions within the AFSWP.

(4) To perform such other duties as might be assigned.

e. Technical Operations Branch.

(1) To plan and prepare for the conduct of the technical programs associated with the special test.

(2) To coordinate Service participation in the technical programs.

(3) To coordinate the participation of the AEC and its contractors, of government agencies, and of research laboratories in the technical phases of the test.

(4) To perform such other duties as might be assigned.

(Ref. 197.)

This section of the History of the Armed Forces Special Weapons Project is based upon Special Field Projects Secret Memorandum, dated 29 July 1953, "Historical Notes, Special Field Projects Division, 1 January 1953 through 30 June 1953", and Special Field Projects Secret Memorandum, dated 27 January 1954, "History of the Special Field Projects Division, 1 July 1953 through 31 December 1953".

(Ref. 236.)

[redacted]

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FIRST HISTORY OF AFSWP 1947 - 1954

VOLUME 6 - 1953, CHAPTER 3 - HEADQUARTERS

SECTION 12 OF 14 SECTIONS

THIS SECTION DECLASSIFIED WITH
DELETIONS BY DNA, CHIEF, ISTS

DATE: 10/3/94

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HISTORY OF AFSWP

VOLUME VI - 1953

CHAPTER 3. HEADQUARTERS

SECTION 12. LOGISTICS DIVISION

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VOLUME VI - CHAPTER 3

SECTION 12. LOGISTICS DIVISION

3-12-1. General.

The mission of the Logistics Division, Headquarters, Armed Forces Special Weapons Project, consisting of procurement, budget, fiscal, and construction responsibilities, underwent no significant changes during the year 1953. (See Vol. IV, par. 3-11-8.) The scope and number of activities required to accomplish the mission did increase, however. The greatest increase in scope of activities was in the materiel and budget fields. The Division took the initiative in various actions directed at the improvement of supply procedures. These activities will be included in some detail in paragraphs dealing with the Materiel and the Methods and Procedures Branches. Budget activities placed greater emphasis on control of expenditure by subordinate installations and on control of obligations for atomic weapons supplies, as described in a subsequent paragraph devoted to the Budget and Fiscal Branch.

In spite of the increase in the volume and complexity of the work, and of the need to plan for future expansion and changes, a greater degree of coordination of the work of the various branches of the Logistics Division was achieved during the year 1953, particularly during the second six months period, than had previously been experienced.

3-1

Several changes were made during the year in the organization of the Division. On 16 February 1953, the Budget Branch and the Fiscal Branch were combined to form the Budget and Fiscal Branch. In June, the

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Services, Supply, and Procurement Branch was reorganized as the Materiel Branch. In July 1953, the Requirements Branch was established in the Logistics Division, pursuant to General Order No. 8, Headquarters, AFSWP, dated 20 April 1953, which transferred the responsibility for handling special weapons requirements from the Plans Division to the Logistics Division. Accounts of these changes in reorganization will be found in the paragraphs following, which deal with the respective branches.

3-12-2. Materiel Branch.

In June 1953 the Services, Supply, and Procurement Branch was reorganized and became the Materiel Branch. The purpose of the reorganization was to give more emphasis to the supply and maintenance fields, and less to procurement. The reorganization served to consolidate general and special supply activities, and to fix the responsibility for maintenance, transportation, and storage functions.

a. Supply Activities.

By 30 June 1953, all AFSWP supplies and equipment, with the exception of supplies and equipment at [redacted] (Site Dog), were obtained on a reimbursable basis. (See Vol. V, par. 3-11-5a.) The latter procedure was to be implemented at [redacted] early in FY 1954.

A consolidation of accounts, by which War Reserve Accounts, SWAPO accounts, and Base Supply accounts were to be closed out and the property transferred into a consolidated property account at each site, was scheduled for completion by 30 September 1953. Sites Able and Dog had completed this consolidation by that date. Sites Baker and Charlie were delayed because of shortage of office space. Site Baker,

[redacted]

however, completed consolidation procedures in November 1953, and Site Charlie completed consolidation by 1 December 1953.

Despite lack of guidance from the Munitions Board in regard to property disposal (see Vol. V, par. 3-11-5f), Field Command, AFSWP, proceeded to establish a disposal system. By this system, property was either declared to the Surplus Materials Division, Bureau of Supplies and Accounts, for disposal action, or was disposed of locally in a manner insuring protection of Government interests.

In order to provide adequate sources from which Field Command activities could obtain Navy standard supplies and equipment, the Bureau of Supplies and Accounts was requested to give direction to the AFSWP in regard to Naval supply depots which could be utilized for this purpose. When this action had been completed, the AFSWP had access to sufficient Naval sources of supply to provide complete coverage of standard items, regardless of whether they were Army, Navy, Air Force, or commercial.

A conference of all supply chiefs from Headquarters, AFSWP; Headquarters, Field Command; and the sites, was convened at Field Command headquarters, 1-3 April 1953. This was the first conference of its kind in the Armed Forces Special Weapons Project and it proved very beneficial. All current supply operations were reviewed with a view toward improvement of the supply system as a whole. A second such conference was held at Field Command headquarters, 19-23 October 1953.

Another Tri-Service Planning and Logistics Conference (see Vol. V, par. 3-11-5b) was conducted at Field Command headquarters,

[redacted]

31 March and 1 April 1953. During March 1953, an Army Special Weapons Depot was established and placed in operation. With the activation of this depot, the goal of establishing centralized sources of special weapons supplies within each Service was achieved. Service Special Weapons Depots in existence were located, for the Army, at [redacted] Colorado; for the Navy, at [redacted] California and at [redacted] Virginia; for the Air Force, at [redacted] Texas.

On 10 September 1953, Lt. Col. Dolby, USAF, attended a conference held at Headquarters, Air Materiel Command, for the purpose of resolving various problems having to do with Air Force materiel support of the AFSWP. (See Vol. V, par. 3-11-5j.) As a result, a procedure was formulated whereby the AFSWP would be permitted to draw on all Air Force materiel facilities in the same manner as Air Force components, with the exception that the AFSWP would pay for all materiel received. As of the close of the year 1953, this procedure was being followed by Site Dog in obtaining its materiel from Air Force depots on a reimbursable basis. All Air Force property on the Site was transferred to AFSWP records without reimbursement. All requisitions after 30 September would quote funds for payment for the requested materiel. Site King would follow the same procedure from the time of its activation.

Plans were completed for a change in accounting practices within the AFSWP supply system. All materiel and supplies would be placed under a dollar inventory. This plan would give the AFSWP supply departments an excellent tool for supply management. On 1 October 1953, Site Charlie established its accounting system, patterned after the Navy's

[redacted]

system. Site Dog was scheduled to establish such a system on 1 January 1954, with Sites Able and Baker to follow, in that order. The transition was expected to be completed by about 1 July 1954.

During November and December 1953, personnel from the Materiel Branch visited all the sites for the purpose of reviewing the site supply activities on location. It was the general opinion that a full study on warehouse utilization should be made by Field Command.

A study of standardization of material handling equipment was begun in November 1953. An attempt was made to promote the handling of weapons with greater efficiency, greater safety precautions, and ~~with~~ greater economy.

A supply policy and procedure document was published on 28 December 1953. In this publication were incorporated all responsibilities, authorities, and policies on which the AFSWP supply system was based, together with procedures required to operate that system.

b. Requirements.

By AFSWP General Order No. 8, dated 20 April 1953, the responsibility for all special weapons requirements functions of Headquarters, AFSWP, were transferred from the Plans Division to the Logistics Division. (See also par. 3-5-3 .) With the establishment of the Requirements Branch in the Division, in July 1953, the duties which had been assumed by the Materiel Branch, following the transfer from the Plans Division, were transferred to the Requirements Branch. (See par. 3-12-3.)

c. Procurement.

Authority was granted to Field Command to purchase

mandatory items from other than General Services Administration facilities when it was certain that the items could not be furnished by the GSA in the time required. Such purchases would have to be justified and authenticated by means of submission of an appropriate funding to the Disbursing Officer.

The Office of the Chief of Engineers delegated to the Chief, AFSWP, the authority to approve award of Architect-Engineer contracts in an amount not to exceed $10,000 each. Field Command was given authority to review its own Repairs and Utilities Contracts under $5,000. Unclassified R and U Contracts above $5,000 would be reviewed by the 4th Army, while classified contracts above $5,000 would be reviewed by Headquarters, AFSWP.

Procurement officers from Headquarters, AFSWP, and from Field Command attended the Negotiators School conducted by the Department of the Navy from February 1953 through May 1953.

During the first half of the year 1953, a request was forwarded to Army G-4, asking for a restatement of AFSWP's authority to perform purchasing and contracting functions. Such a restatement was considered necessary in order to clarify many aspects of the original delegation of authority which had become confusing because of changing circumstances. Review, by the Procurement Section of G-4, Department of the Army, of the delegation of authority upon which AFSWP procurement action was based, resulted, later in the year, in new, up-to-date statements on delegation of procurement authority. All AFSWP procurement functions were realigned to conform to the new statements of procurement authority.

3-12-3. Requirements Branch.

General Order No. 8, of Headquarters, AFSWP, dated 20 April 1953, transferred the responsibility for handling special weapons requirements from the Plans Division to the Logistics Division. (See also par. 3-12-2b, above.) The Requirements Branch was established in the Logistics Division in July 1953, its chief functions being to take necessary staff action for the programming of atomic weapons equipment, based on the stated requirements of the Services, and to coordinate the special weapons portion of the AFSWP budget in regard to equipment requirements of the AFSWP and the Services.

The Tri-Service Planning and Logistics Conference which was held at Sandia Base on 15-17 September 1953 was attended by the Requirements Officer, Major Swanick, as well as by Colonel Simon, Executive Officer of the Division, and Commander Granston, Methods and Procedures Branch. At this conference, the Equipment Requirements Program submitted by the Services was put in final draft form. (See Vol. V, par. 3-5-15.) In addition, the implementing details on computation of end item requirements by the Services were discussed.

The Equipment Requirements Program was again reviewed with Service representatives in AFSWP headquarters, on 4 and 5 November. At this meeting, Field Command representatives were also in attendance. The Equipment Requirements Program, as drafted, was published on 17 November 1953 by Field Command, AFSWP, and was distributed to the Services and to the Division of Military Application, AEC, during the first part of December 1953. This document gave to the DMA, AEC, planning information

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on special weapons programs of the Services, through Fiscal Year 1956. Because of restrictions imposed by the Office of the Chief of Naval Operations, the published Equipment Requirements Program did not contain the Navy's TX-15 program. Also, the copies furnished the Division of Military Application did not include the Air Force program, because of the Air Force policy which forbade furnishing such information to agencies outside the Department of Defense.

The first submission of end item requirements by the Army and the Navy, by means of the Special Weapons Materiel Requirements Report (SWMRR), revealed several deficiencies in the system. Since the first two submissions were planned to be "dry runs" only, the noted deficiencies would serve as a basis for improving the system. The objective was to help the Services develop full capability in determination of specific requirements for special weapons materiel. Field Command, AFSWP, developed the Test and Handling Equipment Requirements Report (THERR). It was anticipated that the second dry run, in the spring of 1954, would terminate the necessity for computation of end item requirements by Field Command.

The special weapons portion of the FY 54 budget which pertained to the prefinancing of FY 55 requirements was reviewed in the light of the latest statement of Service requirements in the ERP published on 17 November 1953. Whereas it at first appeared that the $31,100,000 figure could be reduced by approximately $4,000,000, the amount of reduction was later revised to $1,300,000 as a result of the addition of the thermonuclear weapons program~~, at an estimated cost of $3,300,000.~~

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The defense of the FY 55 budget as it pertained to special weapons requirements for FY 56, before representatives of the Office of the Secretary of Defense and the Bureau of the Budget, took place on 31 December 1953. Field Command met a short deadline in preparing a detailed breakdown of special weapons programs in budget terms for FY 56, based on the latest ERP. Initially estimated at $31,100,000 in March 1953, the detailed breakdown led to a request for new funds in the amount of $26,800,000 plus $2,900,000 to be carried over from the FY 54 budget, the latter representing funds for programs which the AEC would be unable to accept for obligation prior to the end of FY 54. The presentation on 3 December 1953 resulted in a budget reduction by the OSD and the BOB from $29,700,000 to $28,000,000. It was expected that this reduction would be absorbed without too much difficulty, with changes in unit prices, revision of programs, and cancellation of projects.

3-12-4. Installations and Construction Branch.

The chief activities of the Installations and Construction Branch during the year 1953 consisted of monitoring the remainder of the FY 1951 and FY 1952 military construction programs, re-programming FY 1953 military construction funds in order to provide funds for some projects in the FY 1954 requirements, securing approval of the FY 1954 construction program, attempting to secure improvement in the repairs and utilities program, monitoring site construction, assembling and consolidating records of the previous year's activities, and working for an understanding with the Office of the Chief of Engineers as to the methods to be used in submitting cost, progress, and completion dates to the Atomic Energy Commission.

[redacted]

[redacted]

a. Construction Program, FY 1951.

The status of projects in the Construction Program for FY 1951 (see Vol. IV, par. 3-11-3b; Vol. V, par. 3-11-3b) was, as of 31 December 1953, as follows:

At Sandia Base		
Commissary Sales Store	Complete	$466,500
Services Admin. Bldg.	Complete	420,200
Post Engineer Shops (2)	Complete	144,100
Service Club	Complete	166,600
Warehouses (2)	Complete	188,400
NCO Club (Alterations and Additions)	Complete	127,900
Assembly Training Facilities	Complete	514,142
Base Spares Warehouse	Complete	292,000
Technical Training Bldg.	Complete	610,000
Out-Patient Clinic	Complete	310,000
Troop Housing	Complete	4,470,200
Additions to Guardhouse	Complete	94,000
Roads, Walks, and Parking	Complete	43,000
Standby Generators (2)	Complete	100,000
At Killeen Base		
NCO Mess and Service Club	Complete	115,000
Trailer Camp	Complete	36,400
At Clarksville Base		
Dormitories (3)	Complete	376,800

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[redacted]

b. Construction Program, FY 1952.

As of 31 December 1953, the status of projects in the Construction Program for FY 1952 (see Vol. IV, par. 3-11-3c; Vol. V, par. 3-11-3c) was as follows:

At Sandia Base		
Base Headquarters Bldg. (Addition)	Complete	$ 234,000
BOQ	Complete	169,000
Tech. Training Bldg. (Addition)	Complete	1,253,000
Addition to Water Supply System	Complete	141,000
Dust and Erosion Control	Complete	82,000
Emergency Training Facility	Complete	679,000
At Killeen Base		
Dormitories (3)	Complete	386,500
At Clarksville Base		
Dormitories (2)	Complete	330,800
Service Club	Complete	109,400

c. Construction Program, FY 1953.

(See Vol. V, par. 3-11-3d.)

The Construction Program for FY 1953 underwent considerable change during calendar year 1953. Because certain projects which had been approved were no longer required, and because there was reason to believe that not all of the construction requirements for FY 1954 would ~~not~~ be approved in the construction program for that period, $2,694,000 of FY 1953 funds were reprogrammed to provide for that amount in new (1954) requirements.

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The revised FY 1953 program is given below. The percentage of progress indicated was in design only, except for the exceptions noted, where construction had begun. Status, as of 31 December 1953, was as follows:

Item	Budget Amount	Percentage of Completion
At Sandia Base		
Station Hospital (150-bed Addition)	$2,631,000	0
BOQ (Male-2 units)	500,000	4
Administration Bldg.	802,000	Under Const.
Addition to Water Supply System	193,000	2
BOQ (Female-Hospital)	95,000	0
Grd. Maintenance Facilities	46,000	Design Complete
Roads and Walks	240,000	1
Utilities for Hospital Addition	15,000	0
Dust and Erosion Control	35,600	0
At Manzano Base		
Airmen's Dormitories (2)	285,600	85 (Const.)
Mess Facilities	251,000	0
Fire Protection Facilities	71,000	0
At Killeen Base		
Railroad Spur	170,000	5
Fire Protection Facilities	160,000	1
At Clarksville Base		
Airmen's Dormitory	142,800	3
Mess Hall Addition	109,000	0
Railroad Spur	203,000	0
Fire Protection Facilities	92,000	0

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Item	Budget Amount	Percentage of Completion
At Bossier Base		
Concrete Aprons	$[redacted]1,000	0

The request for the above re-programming was originated in the Logistics Division, and required approval of Army G-4, the Bureau of the Budget, the Office of the Secretary of Defense, and Congressional Committees. This method of obtaining funds for projects, while common, is not normally used in cases involving so many projects or so much money. Its success in this case was probably owing to the desire of approving agencies to save on funds already appropriated and to reduce the amount of authorization requested for FY 1954.

Particular difficulty was met in obtaining plans for the hospital additions at Sandia Base which would meet cost limitations, medical standards, construction criteria, and the approval of the Surgeon General. Original preliminary plans prepared by the Army Corps of Engineers greatly exceeded authorization. A revised set, estimated to meet exactly the amount of the authorization, was prepared and was submitted, through channels, to the Bureau of the Budget, with a request for apportionment of funds. As of the close of calendar year 1953, it was believed doubtful that the full scope of the project, as currently planned, would be approved.

d. Construction Program, FY 1954.

The AFSWP Construction Program for FY 1954, as authorized by Congress, consisted of the following:

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Item	Budget Amount
At Sandia Base	
Sandia Special Weapons Depot Shop	$223,000
Sandia Special Weapons Depot Warehouse	236,000
Post Engineer Warehouse Addition	154,000
Utilities	100,000
Roads, Walks, Storage, and Parking	200,000
At Manzano Base	
Assembly and Classroom Bldg.	42,000
Fire Fighting Facilities	13,000
At Killeen Base	
Fire Fighting Facilities	39,000
At Clarksville Base	
Fire Fighting Facilities	18,000

No funds were appropriated for the above program. The Army military construction program was to be financed from unexpended balances already appropriated. A request was made for the Department of Defense to allocate such funds.

e. Classified Site Construction.

In monitoring the construction at classified sites, the Logistics Division had the problem of working with several programs at once, and of keeping these programs moving forward through the co-ordinated efforts of a number of agencies — the Atomic Energy Commission, the Army Office of Chief of Engineers, the Kansas City Area Engineer,

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the Tulsa District Engineer, the Navy Bureau of Ordnance, and the Air Force.

(1) Project Water Supply.

(See Vol. V, par. 3-11-3a.)

As of 30 June 1953, final costs on Project Water Supply were determined to be:

Site Able	$24,794,759
Site Baker	20,960,052
Site Charlie	17,314,869
Total	$63,069,680

(2) ART Construction Program.

(See Vol. V, par. 3-11-3f.)

The following sites were operationally complete as of 30 June 1953. The costs shown below for the individual sites include the estimated costs of certain main items of work not currently finished:

Site Able	$ 3,060,163.36
Site Baker	3,664,248.10
Site Charlie	5,220,477.89
Site Dog	8,555,133.79
Site Easy	13,166,991.69
Site Fox	8,228,981.43
Site George	7,797,314.84
Site How	6,402,562.96
Site Jig (approx.)	7,000,000.00

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No new sites were completed under the ART program during the latter half of the year 1953. The final cost for Site Jig (see above) was $6,642,000. As of 31 December 1953, the status of the remaining sites under the ART construction program was as follows:

Site Item - Work was in progress, and completion of the unclassified phase was scheduled for 1 August 1954. It was expected that bids for the classified phase would be opened before 1 February 1954, and that construction of that phase would be completed by 1 October 1954.

Site King - Design for the site was in progress, and construction was scheduled to begin 1 May 1954, with completion of the unclassified work scheduled for 1 April 1955, and completion of classified construction, 1 July 1955.

Site Love - Construction was progressing satisfactorily, with completion of the unclassified work scheduled for 15 June 1954. A contract covering the unclassified work was begun on 2 November 1953, with completion scheduled for 15 September 1954.

(3) OLDSQUAW Construction Program.

(See Vol. V, par. 3-11-3a.)

The OLDSQUAW program was to provide for the construction of satellite sites and certain additional facilities at other sites. As of 31 December 1953 the OLDSQUAW program was progressing satisfactorily. Some difficulty was being encountered in securing DOD approval of land acquisition for Site King (parent and satellite). The

cost of the program, as of that date, had been $183,717, with advanced planning and design approximately 10 percent complete.

(4) TRUELOVE Construction Program.

A new classified construction program, TRUELOVE, was inaugurated during the latter half of the year 1953. Its purpose was to provide storage facilities for thermonuclear weapons. Funds for the TRUELOVE program were to be obtained from surplus ART funds. Facilities scheduled to be built at the various sites under this program were:

[redacted]

f. Other Problems.

A problem which occupied the attention of the Installations and Construction Branch, intermittently, was the acquisition of certain land near Sandia Base. This land, which had been used by the Navy under Public Land Orders, had previously been under the jurisdiction of the Department of Agriculture and the Department of the Interior. When the Navy wished to give up the land, the AFSWP agreed to take it. The Navy was reluctant, however, to decontaminate the land. The Chief of Engineers, Army, was asked to assume the negotiations with the Navy, the Department of Agriculture, and the Department of the Interior, and to try

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to arrive at a solution which would provide the AFSWP with the desired land in a decontaminated state. The land was needed for test purposes and for possible future expansion of installations.

In connection with construction at Site Love, [redacted] approval was obtained from the Federal Housing Administration for the construction of 300 two and three-bedroom family housing units. Indications were that the contract for the construction of this housing would be awarded to George M. Holstein and Sons, the contracting firm for existing Wherry Housing [redacted] The additional housing would be built adjacent to the existing housing at the base. In addition to the 300 Wherry Housing units, there was approved and under construction a project for 400 two and three-bedroom units under Title IX. A proportionate part of these units would be available to personnel of [redacted]

The volume of work handled by the Installations and Construction Branch had grown disproportionately to the number of personnel assigned to the Branch. Consequently many compilations of data which would have been desirable were not made because of lack of time to devote to such work. During the year 1953, however, a start was made on compilation of construction data, and by the close of the year master building lists for site construction had been brought up to date, progress of construction programs had been charted, and OCE directives were being assembled in such form as to provide a clear index of construction activity and funding by the Office of the Chief of Engineers.

Somewhat related to the above matter of records was the

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problem of assisting the AEC in obtaining the essential cost, ~~fiscal~~ progress, and completion data from the Chief of Engineers. For more than a year the Branch expended time-consuming effort to secure information which the AEC was urgently requesting, and which the Chief of Engineers was reluctant to provide in the form requested. In December 1953 a staff study was prepared on the subject, and was used as a basis for discussion at an OCE-AFSWP-AEC conference. The understandings reached at this conference were expected to lead to new procedures which would satisfy the AEC as well as provide Headquarters, AFSWP, with more satisfactory data pertaining to costs and values.

3-12-5. Budget and Fiscal Branch.

a. Establishment and Functions.

On 16 February 1953 the Budget Branch and the Fiscal Branch were combined to form the Budget and Fiscal Branch. The functions of the Branch were:

(1) To initiate planning for, and to coordinate and develop procedures related to, the AFSWP operating budget.

(2) To receive and review various budget estimates and justifications.

(3) To assist in the presentation of the AFSWP budget to the Secretary of the Army, the Research and Development Board, the Secretary of Defense, the Bureau of the Budget, and Congressional Committees.

(4) To establish a funding program.

(5) To develop and monitor policies related to the fiscal activities of the AFSWP.

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(6) To perform the functions of the operations agency for handling all funds utilized by activities within the control of the AFSWP.

(7) To perform audits of classified accounts and to review audits of other AFSWP accounts.

b. Working Fund Account.

The AFSWP working fund account of $20,000,000 was established on 18 February 1947, and was originally scheduled to continue until the end of Fiscal Year 1951. (See Vol. I, par. 4-4-2a.) On 28 July 1950, the account was extended to 30 June 1955. (See Vol. III, par. 3-4-2.) As of 31 December 1953, the time limit on the account remained unchanged.

c. Obligations and Expenditures.

The accumulated obligations of the working funds through 30 June 1953 were $19,951,944.91. The expenditures as of the same date totaled $19,948,540.74. This left an unobligated balance from the original 20,000,000, of $48,055.09. Through 31 December 1953 the accumulated obligations totaled 19,950,862.00 and the expenditures totaled 19,948,557.00. As of 31 December 1953 the unobligated balance of the original $20,000,000 was $49,138.00.

d. Confidential Funds.

The budget for the Fiscal Year 1953 included the sum of $7,000 for use as confidential funds. (See Vol. V, par. 3-11-2(c).) The sum of $6,500 for use for confidential purposes was included in the budget for Fiscal Year 1954.

e. Budget for Fiscal Year 1951.

Of the funds under the budget for the Fiscal Year 1951, the total obligations through 30 June 1953 amounted to $31,886,445.86, and the total expenditures as of that date amounted to $31,731,325.76, leaving an unexpended balance of $155,120.10. Funds under this budget expired, for expenditure purposes, as of 30 June 1953.

f. Budget for Fiscal Year 1952.

The status of FY 1952 funds, as of 30 June 1953, was as follows:

	Obligations	Expenditures	Unexpended
Maintenance and Operations, Army, 1952	$38,820,230.66	$37,292,224.98	$1,528,005.68
Research and Development, Army, 1952	8,473,725.35	7,265,736.40	1,207,988.95
Office of Secretary of Defense	1,017,132.98	420,424.00	596,708.98

As of 31 December 1953, the status of FY 1952 funds was as follows:

	Obligations	Expenditures	Unexpended
M&O, Army, 1952	$38,640,318	$37,872,562	$ 767,756
R&D, Army, 1952	8,435,846	7,925,776	510,070
Office, Sec. of Defense	1,017,133	420,700	596,433

g. Budget for Fiscal Year 1953.

During the calendar year 1953, several changes were made in the budget for FY 1953. On 1 April 1953, a reduction in personnel funds,

in the amount of $266,900, was made at the direction of G-1, Department of the Army. Increases in the R&D program were made for use in Operation CASTLE. For the latter purpose, the sum of $2,500,000 was allocated in April, and another $2,500,000 was allocated in June. During May and June 1953, the AFSWP offered $3,500,000 to the Office of the Secretary of Defense for reprogramming. These funds were withdrawn by the Army Comptroller. During this same period (May-June 1953) the Joint Task Force Number 7 returned to the Army Comptroller $2,862,292 of its allocation of $4,800,000, for reprogramming. Both of these amounts marked for reprogramming were, in the main, surplus funds in the extra-military program. As of 30 June 1953, the revised funding programs for fiscal year 1953 included $43,125,608, Maintenance and Operations, Army, and $15,776,500, Research and Development, Army.

As of 30 June 1953, the status of FY 1953 funds was as follows:

	Obligations	Expenditures	Unexpended
M&O, Army, 1953	$39,257,338.26	$33,225,244.92	$6,032,093.34
R&D, Army, 1953	10,271,534.58	8,507,876.95	1,763,657.63

As of 31 December 1953, the status of FY 1953 funds was as follows:

	Obligations	Expenditures	Unexpended
M&O, Army, 1953	$38,823,107	$35,248,556	$3,574,551
R&D, Army, 1953	10,181,774	9,082,152	1,099,622

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h. Budget for Fiscal Year 1954.

A memorandum agreement between Joint Task Force Number 7 (JTF-7) and the Chief, AFSWP, in regard to AFSWP participation in Operation CASTLE, was signed on 22 May 1953. This memorandum stated, among other things, that R&D funds and extra-military funds for Operation CASTLE would be allotted to JTF-7 by the AFSWP. Such funds had formerly been allocated to JTF-7 by the Army Comptroller. In the latter part of June 1953, JTF-7 requested that the agreement be revised to show that, while the R&D funds would be allotted to the task force by the AFSWP, the extra-military funds would be allocated to it by the Army Comptroller. This request was approved by the Chief, AFSWP. Later in the year, negotiations were renewed between the AFSWP and JTF-7 on the subject of extra-military expenses. At a meeting on 1 July 1953, the Office of the Secretary of Defense advised the Department of the Army to withdraw from the FY 1954 funds of the AFSWP, the amount of $13,400,000, of which $5,000,000 would be allotted to JTF-7. The remaining $8,400,000 would be placed in an Army administrative reserve. The AFSWP was to continue to budget for extra-military expenses, but the funds would be returned to the Army for re-programming to the AFSWP. The Task Force would report obligations and expenditures to the AFSWP. This advised procedure was followed during the remainder of the year, but the question continued to be raised as to who should budget, normally, for the extra-military expenses of JTF-7. As of the end of the year 1953, the Joint Chiefs of Staff were preparing to make a final decision.

On 4 April 1953, the Secretary of Defense directed that

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funds would not be obligated with other agencies outside the DOD without his specific approval. The AFSWP immediately took steps to have all further intended obligations of this nature receive the approval of the Secretary of Defense. Agencies primarily concerned in this respect were the Atomic Energy Commission, the National Bureau of Standards, the National Institutes of Health, and the Department of Agriculture.

Several changes were made during the year 1953 in regard to the budget for Fiscal Year 1954, as follows:

(1) The previous amount of $109,703,000 for Maintenance and Operations, Army, (see Vol. V, par. 3-11-2h) was reduced by $5,950,000, as a result of a complete revision of the budget program for extra-military expenses of atomic tests. The remainder, $103,753,000, was the amount for M&O, Army, presented to Congress on 2 June 1953.

(2) The previous amount of $14,650,000 for Research and Development, Army, (see Vol. V, par. 3-11-2h) was reduced by $650,000. The program for R&D, Army, 1954, as presented to Congress included:

New money requirements	$13,500,000
Carry-over from FY 1953	500,000
	$14,000,000

(3) The FY 1954 budget as presented to the House Sub-Committee for Army Appropriations ($103,753,000 for Maintenance and Operations, and $14,000,000 for Research and Development) was approved, and the appropriation act of which these amounts were a part became law as of 1 August 1953.

(4) At the hearing conducted by the Office of the

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Secretary of Defense and the Bureau of the Budget on the AFSWP budget for FY 1955, the M&O program for FY 1954 was revised downward, as follows:

Appropriated, M&O, Army 1954		$103,753,000
Minus:		
Allocated directly to JTF-7	-$13,400,000	
Reduction in Special Weapons	- 1,900,000	
Special Weapons moved to FY 1955	- 2,874,600	
CAS building excess	- 3,600,000	
Excessive personnel funds	- 1,124,000	
Round-off	- 400	
		- 22,899,000
New total		$ 80,854,000

For the second half of 1953 (first half of Fiscal Year 1954) the AFSWP was funded and allocated $28,424,000 of Maintenance and Operations, Army, 1954, funds, and $13,254,965 of Research and Development, funds, Army, 1954. As of 31 December 1953, the amount of $23,532,743 had been obligated, of the M&O, Army, funds, and $19,501,755 had been expended, leaving $4,891,257 unobligated. Of the R&D, Army, funds, $4,475,017 had been obligated, and $3,870,527 had been expended leaving $8,779,948 unobligated.

i. Budget for Fiscal Year 1955.

On 27 August 1953, a request was submitted by the AFSWP to G-4, Army, for the amount of $12,250,000 for Research and Development for the FY 1955 budget. On 4 September 1953, a request was submitted to the Army Comptroller for the amount of $60,194,000 for Maintenance and

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Operations in the budget for FY 1955. On 29 September 1953, the Budget Advisory Committee cut personnel funds from $7,459,000 to $6,570,000. This cut was made because space allocations for personnel at Sites KING and LOVE had not yet been requested, and the Budget Advisory Committee was unaware of the AFSWP requirement for such personnel. Arrangements were made by the AFSWP with the Army and with the Office of the Secretary of Defense to include the amount of personnel funds required for these sites in the requirements to be submitted to the Department of Defense. The spaces originally planned for Sites KING and LOVE were 143 for each site. After reconsideration, the request was for 111 spaces for Site KING and 105 spaces for Site LOVE.

The budget figures submitted to the Department of Defense and the Bureau of the Budget at the hearing on 4 December 1953 were as follows:

M&O	$59,193,000
R&D	12,250,000

Revision by the Office of the Secretary of Defense resulted, as of 11 December 1953, in the following budget for submission to Congress:

M&O	$26,500,000
P&P (Production and Procurement)	28,000,000
R&D	12,500,000

j. Civilian Payroll, Headquarters, AFSWP.

Effective 6 July 1952, the civilian payroll functions for Headquarters, AFSWP, had been transferred from the Civilian Personnel

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Branch, Personnel Division, to the Budget and Fiscal Branch, Logistics Division. This transfer did not include the time-keeping functions, which remained in the Civilian Personnel Branch. It was anticipated that the time-keeping functions would be transferred to the Budget and Fiscal Branch in January 1954.

3-12-6. Methods and Procedures Branch.

a. Establishment and Mission.

The Methods and Procedures Branch had its beginnings in the Logistics Plans Branch which was established in the Logistics Division in July 1952. (See Vol. V, par. 3-11-7.) By the close of the year 1952 the new branch had assumed the name Methods and Procedures Branch. (See Vol. V, par. 3-11-1.)

During the year 1953 the officer-in-charge of the branch continued to conduct, and to participate in, special logistic studies and projects designed to improve the materiel support to the AFSWP mission. Some of the more important of these studies and projects will be named and explained in more or less detail in the paragraphs following.

b. Special Weapons Materiel Control Office.

During the first half of the year 1953, plans for the establishment of the Special Weapons Materiel Control Office (SWMCO), were completed. During the Tri-Service Planning and Logistics Conference held at Sandia Base in September 1953 (see par. 3-12-3) these plans were completely reviewed. The Commanding General, Field Command, with the approval of the Chief, AFSWP, revised the plan for establishing the SWMCO as a separate office. The mission of the SWMCO was added to that of the Sandia Special Weapons Depot. (See Vol. IV, par. 4-5-4.)

Vol. XI, par. 4-9-1 ff.

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The Bureau of Supplies and Accounts, Department of the Navy, which was to have assigned a senior officer of the Navy's Supply Corps as Officer-in-Charge, SWMCO, assigned Captain Fletcher Lampkin, USN, as relief for Commander W. T. Rossell, USN, Officer-in-Charge, SSWD.

c. Direct Distribution of Special Weapons Material.

By mid-1953 direct distribution of training weapons and components from Project Royal to Service depots was being realized, with resultant economy. The AEC indicated its satisfaction with this arrangement. Similar economical distribution was being made of special weapons materiel from Rocky Flats, Colorado.

The AEC (at Sandia) completed a study of the feasibility of direct deliveries of test and handling equipment procured through Sandia Corporation. The study revealed certain deficiences in the current AEC materiel inspection system. It was planned that test and handling equipment would be inspected at the source, and the AEC considered the employment of military materiel inspection. In the latter connection, the officer-in-charge of the Methods and Procedures Branch approached the Assistant Chief of Naval Material (Field Service) and was informed that the Navy was willing to perform the inspection service. Arrangements were completed with the Inspector of Naval Material for Naval inspection and acceptance of test and handling equipment at the source. As of the close of the year 1953, however, the AEC had not approved the direct distribution of test and handling equipment, and it appeared that such approval, if given at all, would be given reluctantly.

d. Cataloging Special Weapons Material.

The cataloging of special weapons material along recommended

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and desired lines progressed slowly but showed certain definite and tangible progress. The AEC, at both Washington and the Sandia Base levels, appeared to recognize the deficiencies in the current cataloging practices. A permanent AEC, Sandia, committee was commissioned to study the current cataloging procedures and to recommend desired improvements.

As of 31 December 1953, Sandia Corporation had accepted the task of establishing a comprehensive stock numbering system and of issuing, as official AEC publications, complete indices of atomic weapons parts. Substantial progress was made by the Corporation in establishing a single cataloging system which would include all atomic weapons, and toward the issuance of a catalog which would serve the needs of all the Services and preclude the necessity for any additional or duplicate cataloging effort.

In view of the agreement between the AEC and the Department of Defense concerning the development, production, and standardization of weapons, and the responsibilities assigned to the DOD for development and fabrication of non-nuclear gun type and implosion type weapons, it was necessary that the scope of AEC responsibility for the cataloging of atomic weapon materials be clarified. (See par. 3-7-1.) The Director of Military Application, AEC, requested a conference with appropriate Service representatives for the purpose of considering the three possible courses the AEC might take in connection with cataloging atomic weapons material. These courses were:

(1) To limit AEC cataloging responsibilities in this

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field to only those weapons components for which the AEC had production responsibilities.

(2) To limit AEC cataloging responsibility to those atomic weapons components for which the AEC had stockpile and surveillance responsibility.

(3) To extend AEC cataloging responsibility to include all atomic weapons parts, regardless of the agency responsible for the production of certain non-nuclear components.

On 18 November 1953 a conference was held in the AFSWP headquarters for the purpose of considering the above-mentioned proposals. The conferees agreed, in general, that the third proposal was the most desirable from a cataloging standpoint and the most economical from an over-all government cost standpoint. It was concluded that a working committee should be appointed to study the matter in detail. In order to further such study the Director of Military Application was requested to invite representatives of the AEC at Sandia Base, at Santa Fe Operations Office, and at Sandia Corporation to visit Washington, and to present the proposed AEC cataloging and numbering system. At a conference in AFSWP headquarters on 10 December 1953, attended by many Service representatives, the AEC cataloging and numbering system was presented by AEC personnel.

At a meeting of the Officer-in-Charge, Methods and Procedures Branch, with a representative of DMA, AEC, on 8 January 1954, it was agreed that the cataloging objective of both the DOD and the AEC

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should be to establish a uniform cataloging system for atomic weapons, and that a single agency should be responsible for necessary and required documentation.

e. End Item Reporting.

With the Services assuming prime responsibility for the development and production of the non-nuclear portions of certain atomic weapons, and for the establishment of special weapons depots and inventory control points, the Logistics Division believed it was timely and appropriate that the Army and Navy should assume responsibility for determining end item requirements of training assemblies, sub-assemblies, dummy components, and related test and handling equipment required to support their respective atomic weapons programs. Such responsibility was currently assumed by the Air Force. At a conference held at AFSWP headquarters on 12 August 1953 it was proposed to representatives of the Army and the Navy that they do likewise. Further, it was proposed that all Services adopt the Special Weapons Materiel Requirements Report (SWMRR) as the method of stating their requirements. It was recommended that the Army and Navy begin determining their end item requirements and using the SWMRRs, commencing with the Equipment Requirements Program for 1 January 1954. The first submissions of SWMRRs would be considered "dry runs" until such time as the Services had achieved competency in handing the determinatcn of end item requirements. Until such competency should be reached, the AFSWP would be responsible for the final determination of the requirements. (See par. 3-12-3.) The Army and Navy indicated their informal acceptance of responsibility for determining their end item requirements, at the conference on 12 August

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1953, and all three Services indicated their acceptance of the SWMRR. Later the Army and the Navy formally accepted the responsibility for determining their own requirements.

f. Maintenance Spares Concept.

Procedures for the procurement and supply of weapons spares for support of war reserve weapons had become unsatisfactory for a number of reasons. The principal factor contributing to this condition was the AEC practice of not producing and delivering associated spare parts with weapons. Field Command, AFSWP, and AEC representatives conducted exhaustive investigations and studies, seeking to provide an orderly and timely flow of spares to war reserve, to apportion the number of spares and the number of weapons in ratios which would facilitate deployment of both, and to provide the Department of Defense with spares to support deployed weapons in a manner which would facilitate the replenishment of initially deployed spares within military channels.

In accordance with the new maintenance spares concept, spares groups would be so constituted that ~~they~~ each would give strike capability and would provide maintenance capability for a period of one year for five weapons. Experience indicated that the ratio of one group of spares to five weapons gave the logistic capability needed for weapons deployment by the military. The determination of the composition of the spares group would be the responsibility of Sandia Corporation, in cooperation with Field Command, AFSWP. Provisioning conferences would be held as early as practicable in order that materiel requirements might be available for production of spare parts concurrently with the weapon parts.

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It was anticipated that the maintenance spares would include Bomb Maintenance Spares (BMaS), Fuze Maintenance Spares (FMaS), and Radar Maintenance Spares (RMaS), each a separate stockpile entity, all to be shipped together as a set of maintenance spares. The packaging of each would be such that it would be possible, on the deployment of a group of weapons, to deliver at the same time all the supporting spares for that group, to the military. One package or group of packages would contain the spares necessary for strike assembly and for initial weapon maintenance.

At the Tri-Service Planning and Logistics Conference held in October 1953, the maintenance spares concept was presented to Service representatives, who contributed many valuable suggestions. The plan described above was, in general, informally accepted by the Services at the conference. Headquarters, AFSWP, later requested formal concurrence by the Services in this concept of maintenance spares.

The above plan had to do only with spares for support of war reserve (WR) weapons, and did not affect the existing procedures relative to spares for training weapons or for test and handling equipment, currently known as "military spares." Certain procedural changes relative to military spares were under study, but it was considered unwise to delay institution of the new weapons maintenance spares procedures for the completion of the military spares studies.

g. Mobilization Reserve Stock of Assembly Equipment.

A study was made of the current method of providing test and handling equipment for war reserve purposes. It was determined that

the method used, with requirements determined on the basis of 20 per cent of test and handling equipment programmed for the tactical or operational organizations of the respective Services, was inadequate. It was recommended that the method of providing test and handling equipment be modified as follows:

(1) The use of the term "War Reserve Assembly Equipment" would be discontinued. In its place the term "Mobilization Reserve Stock of Assembly Equipment" would be adopted, and would be defined as that portion of the total quantity of a particular item, on hand and on order, designated to meet the mobilization reserve material requirements.

(2) The current concept of a Mobilization Reserve Stock based on a straight across the board percentage of end items would be abandoned. An item by item study should be made by the AFSWP and the Services to determine what items and how much of each, of those meeting the selection criteria for Mobilization Reserve Stock, should be procured.

The above recommendations received the approval of Field Command, AFSWP, and were forwarded to the three Services for their approval. It was apparent that the current concept of "Depot Reserve" should also be carefully studied and examined in the near future.

h. Fields - Luedecke Agreement.

In July 1953, Field Command proposed a revision of the Fields - Loper agreement concerning the respective responsibilities of the AEC and the Services in regard to equipment supply. (See Vol. V, par. 3-11-5b.) The revision proposed would permit local manufacture of

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parts of test and handling equipment. In reviewing the Fields-Loper agreement with a view toward this revision, it was noted that several features of the agreement were out of date as a result of the increasing participation of the Services in the development and production of non-nuclear components of atomic weapons. (See par. 3-7-1.) Also, it was necessary to take into account, in any new agreement, the feature of direct delivery and the new operational suitability test arrangements. (See par. 3-7-7e.) In fact, it was necessary to completely rewrite the Fields-Loper agreement to bring it up to date. Representatives of the staff of the Division of Military Application, AEC, suggested several necessary changes. The Fields-Luedecke agreement (for Brig. General Kenneth E. Fields, USA, Director of the Division of Military Application, AEC, and Brig. General Alvin R. Luedecke, USAF, Chief, AFSWP) was formulated and referred to the Deputy Comptroller (Budget), Department of Defense, for review. Such review was necessary because of the budget implications involved in Service acceptance of responsibility for development and production of non-nuclear components.

3-12-7. Organization and Key Personnel.

There were few changes in key personnel in the Logistics Division during the year 1953. In January, CDR R. O. Merrill, SC, USN, was relieved by CDR A. H. Gabriels, SC, USN, as budgeting officer. During the second half of the year, Mr. J. M. Ryan, of the Materiel Branch resigned, and Mr. J. J. Rutledge was assigned, on 11 October 1953, as civilian assistant to the Chief, Materiel Branch.

As of the end of the year 1953 the organization of the

[redacted]

[redacted]

[redacted]

Logistics Division, with the key personnel of each branch indicated, was as follows:

Chief, Logistics Division

Colonel Donald E. Antes, CE, USA

Executive Officer

Lt. Col. Lincoln A. Simon, USA

Administrative Assistant

Mr. Ralph E. Ballinger

Materiel Branch

Lt. Col. William F. Dolby, USAF

Capt. John J. Suter, USAF

Mr. Joseph J. Rutledge

Requirements Branch

Major Joseph P. Swanick, USA

Installations and Construction Branch

Mr. Earl L. Taton

Mr. Eugene G. Anderson

Budget and Fiscal Branch

CDR Alfred H. Gabriels, USN

Capt. Robert J. Noryko, USA

Mr. Nathan W. Martin

Methods and Procedures Branch

CDR Robert W. Granston, USN

3-12-8. Functions of the Division.

As of the end of the year 1953, the functions of the Logistics Division were:

[redacted]

[redacted]

a. Duties of the Chief of the Division.

(1) To report to and advise the Deputy Chief of Staff, Administration, on all logistic functions.

(2) To supervise the supply and procurement programs of the AFSWP, including those in the field of atomic weapons material.

(3) To direct the preparation of the budget, and to assist in presenting and defending it before higher authority. To operate the fiscal program.

(4) To monitor the AFSWP construction program and repairs and utilities activities.

b. Materiel Branch.

(1) To plan for, coordinate, and monitor those policies, procedures, and systems required for the acquisition, storage, distribution, maintenance, and disposal of all supplies and equipment necessary for the continuous support of AFSWP operations. (This would include all special weapons supplies and equipment except stockpile materiel.) To monitor supply functions such as cataloging, inspection, classification, distribution, and handling performed by the AFSWP in transmitting AEC-produced materiel, except stockpile weapons, to the Services.

(2) To act as head of a procuring activity for purchasing and contracting accomplished directly by AFSWP activities. To provide administrative assistance to offices of Headquarters, AFSWP, involved in procurement matters. To monitor disposition of all property accruing to the Government as a result of expenditures of AFSWP funds for tests, research, development, or other AFSWP mission responsiblities and functions.

[redacted]

(3) To monitor all service facilities and operations, such as commissaries and transportation utilized in AFSWP.

c. Requirements Branch.

(1) To take necesary staff action for the programming of atomic weapons equipment based upon the stated requirements of the Services.

(2) To coordinate the special weapons portion of AFSWP and Service requirements.

d. Installation and Construction Branch.

(1) To initiate planning for, and monitoring and reviewing of, policies and procedures relating to new construction, land acquisition, and repairs and utilities.

(2) To coordinate matter relating to construction of new storage sites, and to expedite supply of materials to various projects.

e. Budget and Fiscal Branch.

(1) To control, with respect to the AFSWP operating budget, all steps relative to submission of estimates and justification development of procedures, and assembly. To assist in presentation of the budget to the Department of the Army, the Secretary of Defense, the Bureau of the Budget, and Congressional Committees.

(2) To establish funding programs to develop and monitor policies relating to fiscal activities of the AFSWP. To perform the function of operating agency for handling all funds utilized by activities within the control of the AFSWP.

(3) To perform audits of classified accounts and to

review audits of the AFSWP accounts.

f. Methods and Procedures Branch.

(1) To receive from other branches, and from the Division Chief, general plans for improvement of procedures and for new procedures. To develop plans through final stages, securing coordination within the division, with other divisions, and with interested agencies outside of the AFSWP.

(2) To insure complete coverage of logistics responsibilities; to survey, continuously, procedures of the various branches, where necessary; and to initiate and develop plans for reducing possible overlapping functions. To obtain coordination of Branch Chiefs for execution of plans.

(Ref. 197)

This section of the History of the Armed Forces Special Weapons Project is based upon Logistics Division Confidential Memorandum of 19 August 1953, "Submission of Logistics Division History, 1 January - 30 June 1953", and Logistics Division Secret Memorandum of 24 March 1954, "Historical Report, 1 July - 31 December 1953."

(Ref. 237)

DTL-070,238

FIRST HISTORY OF AFSWP 1947 - 1954

VOLUME 6 - 1953, CHAPTER 3 - HEADQUARTERS

SECTION 13 OF 14 SECTIONS

THIS SECTION DECLASSIFIED WITH
DELETIONS BY DNA, CHIEF, ISTS

Robert D. Hoppe

DATE: 10/3/94

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HISTORY OF AFSWP

VOLUME VI - 1953

CHAPTER 3. HEADQUARTERS

SECTION 13. SECURITY DIVISION

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VOLUME VI - CHAPTER 3

SECTION 13. SECURITY DIVISION

3-13-1. General.

The mission and responsibilities of the Security Division remained substantially unchanged during the year 1953. (See Vol. IV, par. 3-12-1; Vol. V, par. 3-12-1.) The Division continued to have staff responsibility for providing protection for classified information, special weapons, and all installations of the command, as well as for AFSWP Headquarters. The security problems of the AFSWP had, of necessity, to be coordinated with the AEC and with each of the three Services. The rapid expansion and changes in the atomic weapons field required constant reevaluation and changes in the AFSWP security procedures and practices, which had to be adjusted to changing requirements and to the sometimes conflicting views of the AEC and the three Services.

3-13-2. Matters of General Policy and Procedures.

a. Retirement of AEC Documents.

Early in the year 1953, there arose the problem of retirement by the AFSWP of documents originated by the Atomic Energy Commission. The matter was discussed by representatives of the Security Division with representatives of the AEC. It was decided that the AEC would interpose no requirements or restrictions concerning AFSWP's retirement of those documents classified Secret and below, and that in the case of Top Secret documents the material would be reviewed for downgrading by both the AFSWP and the AEC. If Top Secret documents were

3-1

thus downgraded to Secret or below, the provision governing material classified as Secret or less would apply. (Ref. 238.)

b. Physical Security during Site Construction.

In March 1953, a conference was held by the Security Division for the purpose of discussing and determining the extent of the responsibilities of the project engineer in regard to physical security during site construction. Participating in this conference were representatives of the Office of the Chief of Engineers (Army), the Kansas City Area Engineer, and Headquarters, AFSWP. It was agreed that the primary physical security responsibility in site construction would remain assigned to the Kansas City Area Engineer, who, in turn, would coordinate all physical security with the project engineer (or his provost marshal) and with the commander of the adjacent military installation.

c. Transmittal of Information to FCDA.

On 5 March 1953, the Chiefs of the three Services issued a directive which designated the AFSWP as the agency of the Department of Defense to participate with the AEC in determining what atomic weapons test information and results of supporting research projects should be transmitted to the Federal Civil Defense Administation to assist that organization in civil defense planning. As a result of this directive, the Chief of the Security Division, AFSWP, along with representatives of AFSWP technical divisions (see par. 3-9-1a) participated in a number of conferences with representatives of the AEC and the FCDA to determine AFSWP policy and procedure in regard to dissemination

of such data, and to insure conformity with the directive. (Ref. 239.)

d. Custodial Responsibility for Sensitive Correspondence.

A series of conferences was held, early in the year 1953, between the Chief of the Security Division and the Adjutant General, AFSWP, in regard to custodial responsibility for certain correspondence which would warrant limited distribution because of its sensitivity. A tabulation was furnished to the Office of the Adjutant General, listing the general subjects concerning which the Security Division had been directed to exercise tight access and distribution control, and for which, therefore, it desired to be the office of record. Agreement was reached on this matter late in March 1953, with the Adjutant General, AFSWP, relinquishing responsibility for such material to the Chief, Security Division.

e. Discontinuance of Use of Polygraph.

Following announcement by the AEC that the use of the polygraph was being discontinued by that organization, a reevaluation was made by the Security Division concerning the use of the polygraph in connection with the AFSWP security program. After careful consideration of all factors involved, the Chief, AFSWP, decided to discontinue the use of the polygraph by the Armed Forces Special Weapons Project, and issued a directive to that effect. (Ref. 240.)

f. Liaison with Central Intelligence Agency.

During April 1953, discussions were held between representatives of the Central Intelligence Agency and representative of the Security Division, AFSWP, concerning access of the CIA to AFSWP classified

documents. An effort was made to clarify CIA requirements and to arrange proper liaison contacts for delivery and return of classified documents.

g. Critical Category Information.

In May 1953, General Bunker, Assistant Chief of Staff for Atomic Energy, United States Air Force, requested a Department of Defense policy, applicable to all three Services, relative to clearance for access to, and control of, critical category information. A conference on this matter was held on 19 June 1953, attended by representatives of the three Services, the MLC, and the AFSWP. The result of the conference was a draft directive governing standard policy and procedure for regulating access to critical atomic weapons stockpile and production information. The draft directive received DOD approval and was put into effect. (Ref. 24.) (See also par. 3-13-3d(1).)

h. AEC-DOD Classification Guide.

During the first half of the year 1953, numerous conferences were held with AEC representatives in an effort to resolve minor differences of opinion concerning certain sections of the AEC-DOD Classification Guide. (See Vol. V, par. 3-4-2.) The principal controversy was in connection with the Restricted Data classification of weapons components, weapons effects, and overseas storage information. A revision of the Classification Guide was published and was distributed to interested organizations in October 1953. While minor differences were reconciled in the revision, the principal conflicts of opinion remained unreconciled. More detailed information concerning the revision of the Classification

Guide will be found in paragraph 3-13-3, following.

3-13-3. Classification, Special Problems, and Public Information Branch.

a. General.

The duties of the Classification, Special Problems, and Public Information Branch involved close coordination with appropriate offices of the Department of Defense, the Departments of the Army, the Navy, and the Air Force, the Atomic Energy Commission, the Military Liaison Committee, the Federal Civil Defense Administration, and other agencies, in connection with classification policies, review of material for classification and public release, and review of information for release to foreign nationals.

b. Classification.

(1) AEC-DOD Classification Guide.

Agreement was reached on Section One of the AEC-DOD Classification Guide, "Fission Bombs and Warheads." The revised section was published as Change No. 4 to the Guide during February 1953. A classification conference of representatives of the Atomic Energy Commission and of the Department of Defense, concerning Sections 9 through 17 of the Guide, was held in April 1953. At this conference, a tentative agreement was reached on Sections 9 through 12, and Sections 14 through 17. Section 13, "Long Range Detection", was set aside for further study, and was not included in the current revision. The proposed revisions were approved and were included in a new edition of the AEC-DOD Classification Guide on 1 September 1953. Revisions in this edition of the

Guide did not include Sections 4, 6, and 8, on which the differing views of the Atomic Energy Commission and the Department of Defense had not been reconciled. (See par. 3-13-2h.) Section 13, as noted above, remained unchanged in the new edition of the Guide, pending further study. This study was completed in the Department of Defense, and the coordinated DOD recommendations were forwarded to the Director of Classification, AEC, on 29 December 1953. During the latter half of the year 1953, the military services, in view of the President's announcement on the thermonuclear program, had under way a further revision of Section 12 of the Guide.

In compliance with Executive Order 10501, dated 5 November 1953, the Branch reviewed "Restricted" items in the Guide for upgrading or declassification in each case. (See par. 3-4-2.) Recommendations were forwarded to the AEC for consideration, on 10 December 1953.

(2) Heavy Water Production Processes.

On 7 May 1953, the Military Liaison Committee forwarded to Headquarters, AFSWP, a request from the Atomic Energy Commission for the declassification of the water distillation, catalytic chemical exchange (Trail Process), and electrolytic process for the production of heavy water. The request was referred to representatives of each of the three Services for comment. The comments received were then consolidated in an AFSWP memorandum for the MLC, indicating approval by the Department of Defense of the proposed declassification except for the production rates of the Trail plant and the composition of the Catalyst used at that plant.

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(3) International Declassification Guide.

A draft of the minutes of the Sixth International Declassification Conference, held 8-10 April, 1953, was transmitted to the Services by the AFSWP on 8 July 1953, for information and study. The AEC forwarded, on 8 September 1953, a staff paper on the revised Declassification Guide as proposed by the Sixth International Declassification Conference. The AFSWP obtained the views of the Services on the matter, and replied, in a letter to the AEC, 21 October 1953, that the Services had no objection to the proposed changes in the Guide. The minutes of the U. S. - U. K. Meeting, 10 April 1953, in connection with the International Declassification Conference, were forwarded by the AEC to the AFSWP, for a concensus of Service opinions. In a letter to the Director of Classification, AEC, the AFSWP concurred, with minor changes in wording, in the recommended modification to Section II of the Declassification Guide.

(4) Discontinuance of RESTRICTED Category.

Executive Order 10501, of 5 November 1953, removed the RESTRICTED category from the classification system, effective as of 15 December 1953. Review of the documents in the RESTRICTED category for downgrading or for classification as CONFIDENTIAL was to be made by the Office of the Adjutant General, Headquarters, AFSWP. (See par. 3-4-2; 3-13-3b(1).)

c. Public Information.

(1) UPSHOT-KNOTHOLE.

During the UPSHOT-KNOTHOLE tests in the spring of 1953, a great deal of work was done by the Classification, Special Problems,

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and Information Branch of the Security Division in regard to classification and release of information concerning the tests. On 2 January 1953, a public information plan for Operation UPSHOT-KNOTHOLE was submitted to Headquarters, AFSWP, for review. The latter recommended that direct control of all observers be under the Test Director, and that no pre-shot or post-shot photography be allowed in the target area. On 28 January 1953, Headquarters, AFSWP, made further recommendations in regard to the joint (AEC-DOD) public information plan, including the suggestion that reference to the use of animals in the tests be made only when absolutely necessary. On 16 January 1953, there was coordinated through the Classification, Special Problems, and Public Information Branch, an announcement in regard to the participation of the Federal Civil Defense Administration at the first shot on 17 March 1953. This shot was declared an open shot, with direct participation by the FCDA. Pre-shot photographs of air raid shelters to be used by the FCDA during the tests were approved for release by the Office of Public Information, Department of Defense, as recommended by Headquarters, AFSWP.

Among the problems presented to the Classification, Special Problems, and Public Information Branch in regard to UPSHOT-KNOTHOLE tests was the policy to be followed by the Department of Defense concerning liability in case of accident. It was finally determined that the Department of Defense should be liable only for the participating troops. (Ref.142.)

On 2 April 1953, the Director of Weapons Effects Tests was notified that the Office of the Secretary of Defense had declared

all shots in the UPSHOT-KNOTHOLE series closed. He was further notified by Mr. Lee Hargus, Office of Public Information, OSD, through Headquarters, AFSWP, that no photographs, still or motion, would be released prior to review by the Atomic Energy Commission and by the Department of Defense. (Ref. 243.)

On 13 April 1953, recommendations were made by Headquarters, AFSWP, regarding interviews of participating troops. It was recommended that interviews be restricted to the main body of troops, and that interviews of troops in the forward area, and of personnel who had received classified training in atomic weapons, be prohibited. This policy was concurred in by the Office of Public Information, Office of the Secretary of Defense, and was passed to the Joint Testing Information Office in Las Vegas, Nevada. Some concern was shown over the question of whether or not to release the distances of troops from ground zero. The Army policy was that such distances should not be given for those forward of the main body of troops. The Office of the Secretary of Defense, however, had no objection to the release of advanced area distances. The matter was finally resolved in favor of the Army policy of not revealing the distance of forward area troops from ground zero.

The most highly publicized shot of the UPSHOT-KNOTHOLE series was Shot No. 10, the 280 mm shell test. Press inquiries submitted to the Joint Testing Information Officer were forwarded to Headquarters, AFSWP, by way of the Office of Public Information, Office of the Secretary of Defense. The press wanted a free hand in taking photographs and in writing stories on the 280 mm test. Press officials

were notified by the OPI, OSD, after coordination with the Classification, Special Problems, and Public Information Branch, AFSWP, that the only photographs of the 280 mm shell that could be taken unofficially would be photographs of it between its departure from Nellis Air Force Base and its arrival at Nevada Proving Grounds, and that no press participation would be permitted at the actual shot. The Department of Defense did, however, release numberous photographs, both black and white and colored, of the 280 mm test. These releases were made through the Joint Testing Information Office, Las Vegas, Nevada.

During the UPSHOT-KNOTHOLE tests, considerable difficulty was encountered in establishing classification standards on effects information. The UPSHOT-KNOTHOLE Classification Guide was sent to the AFSWP for review, comments, and concurrence. The Guide was returned with appropriate remarks. Upon publication of the Guide, it was found that many of the classifications which had appeared in the draft as non-Restricted Data had been changed to Restricted Data. Correspondence on this matter between Headquarters, AFSWP, the Military Liaison Committee, and the Atomic Energy Commission did not serve to resolve the problem, because of the AEC's interpretation of Section 10(b)(1) of the Atomic Energy Act.

(2) Other Problems of Information Release.

During the period from 1 January 1953 through 30 June 1953, the Classification, Special Problems, and Public Information Branch reviewed 26 documents for open publication, 8 of which were disapproved on grounds of technical inaccuracy or for security reasons.

During the period from 1 July 1953 through 31 December 1953, 83 documents for open publication were reviewed, of which 15 were disapproved on grounds of technical inaccuracy, security violation, or as a matter of policy.

During the first half year, 70 still photographs were reviewed, of which 15 were disapproved for publication because they depicted classified information. During the second half year, 29 photographs were reviewed, of which only two were disapproved for release.

Fifteen proposed speeches were reviewed by the Branch, with one disapproved as not proper since its subject matter was associated with classified information.

In June 1953, Headquarters, AFSWP, received for review a document on "Reactors" proposed for release by the Atomic Energy Commission. It was determined that the report should carry the classification of Confidential Security Information. This decision was transmitted by the Chief, AFSWP, to the Department of Defense to be used as a basis for the reply of the latter to the Atomic Energy Commission. Later in June, the Classification, Special Problems, and Review Branch was notified that the "Reactors" report had been modified and would be submitted again for review. On 3 August 1953, a letter was received from the Chairman, MLC, stating that the Chairman, AEC, had decided to classify the report.

A number of motion picture films were reviewed for classification by the Classification, Special Problems, and Review Branch. Several of these films were from Operation UPSHOT-KNOTHOLE. In January 1953, three unclassified films on the general subject of self preservation

in an atomic attack were released to the South African Embassy. In March, AFSWP approved the request of G-2, U. S. Army, for the showing of two AFSWP motion pictures, "GREENHOUSE" and "Target Nevada", to the French Prime Minister and party.

There had arisen from time to time the question of certain information deemed by the AFSWP to be of trade value with allied nations. Discussions on this matter with G-2, Department of the Army, resulted in a policy whereby AFSWP recommendations concerning such information would be transmitted through G-2, Department of the Army, to the military attache of the country with whom such a trade might be made. (Ref. 244.) On 27 June 1953, a study on flash blindness which was classified Secret Security Information was transmitted to G-2 with the recommendation that it be traded for similar studies by the British.

On 27 January 1953, the AFSWP study, "Truss Bridges — The Study of a Single Truss", was recommended for release to the Canadian Government. On the same date, Volume II of the Radiological Defense Series was also recommended for release to the Canadian Government. On 2 March 1953, the "Tenth Progress Report on Effects of Thermal Radiation on Material", by W. F. Roeser, was coordinated with Op 36, Department of the Navy, for recommendation for release to the Canadian Staff. On 24 March 1953, at the request of G-2, Department of the Army, a request by the Australian Government for Volume II and IV of the Radiological Defense Series was approved by Headquarters, AFSWP. On 31 March 1953, recommendation for release to the New Zealand Joint Staff of a document on the general subject of controlling under-

water explosions was made after coordination with Op 36, Department of the Navy.

On 16 June 1953, Headquarters, AFSWP, concurred in a new policy recommended by the Secretariat, State-Defense Military Information Control Committee, by which designated Confidential documents could be released by the Supreme Allied Command, Europe, to NATO, with certain deletions as a matter of security. Concurrence was also given to the recommendation that SHAPE be permitted to release information in the military field of atomic energy which was classified Restricted Security Information, to NATO commands, with a recommendation that all future releases be dealt with on a case by case basis at the request of SHAPE.

On 28 July 1953, a conference of representatives of G-2, Army, and of the AFSWP, was held to discuss the matter of securing Monte Bello test information. It was agreed that G-2 would transmit to the AFSWP whatever information they had on the Monte Bello tests. Requests for this type of information would be submitted by the AFSWP to G-2, to be processed through the British Joint Services Mission. On 31 July 1953, a second conference was held, at which time the AFSWP was informed by G-2 representatives of the many difficulties being encountered in requesting Monte Bello test information from the British. The difficulties were, in the main, the result of interdepartmental jurisdictional problems. The problem was subsequently merged into the larger problems of exchanges of information concerning atomic energy with allied nations, as related above.

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On 20 October 1953, a paper submitted by Captain Arthur T. Chambers, 2nd, MC-USAR, entitled "The Use of Cortisone in Treatment of Chorio-Retinal Damage Resulting from Observation of Atomic Detonation", was reviewed, and was found to contain information which should not be published. The decision against publication was made by the Office of Public Information, Office of the Secretary of Defense. In the meantime, the title of the paper had appeared in an edition of The Military Surgeon. This publication of the title, and the later DOD decision not to clear the paper, had unfortunate results, including unfavorable remarks by some members of the press. Such situations would be avoided if originating agencies would wait for official review and clearance before making publication commitments.

At the request of Field Command, AFSWP, a study was made of AFSWP'S policy in regard to public relations releases at the sites. The study was coordinated with each of the three Services, and was transmitted to Field Command on 20 March 1953 as "AFSWP Policy on Public Information", with the recommendation that public relations releases be made through the nearest unclassified military installation. On 30 July 1953, AFSWP Directive 17-18, "Guide for Review for Open Publication" was published as a standard operating procedure for review of documents for open publication. The Field Command Public Information Officer completed a survey of Field Command public information problems, including such problems at the sites. A study outlining specific problems at the respective sites, together with a proposed public information policy for Field Command, was to be submitted to Headquarters, AFSWP, for approval.

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d. Special Problems.

(1) Alpha 50 Material.

During the month of February 1953, a study was undertaken concerning the procedures used within the three Services in connection with Alpha 50 material. In June, following a request by General Bunker for a DOD policy applicable to all three Services, in regard to access to, and control of, critical category information, a conference on the subject was held by representatives of the Services, the MLC, and the AFSWP. A directive was drafted, setting forth policy and procedure for regulating access to critical atomic weapons stockpile and production information. This draft directive was approved by the Department of Defense, and was put into effect. (See par. 3-13-2g, above.)

(2) Information to Foreign Nationals.

On 22 January 1953, a request was received for permission for a visit to Headquarters, AFSWP, by five British naval officers. Arrangements were made for the visit to take place at the Bureau of Ships, with AFSWP representatives present. During the first half of the year 1953, a study was completed regarding the release of information to foreign nationals, and visits of foreign nationals to Headquarters, AFSWP. The study resulted in the revised republication of AFSWP Directive No. 17-15, "Release of Military Information to Foreign Nationals", dated 11 May 1953, and AFSWP Directive No. 17-4, "Visit of Foreign Nationals to Headquarters, AFSWP, dated 16 June 1953.

(3) Opening of Nevada Proving Grounds.

On 9 December 1953, a letter was received from

the Santa Fe Operations Office, proposing the opening of the Nevada Proving Grounds to public inspection. This proposal had been discussed with the Director, Weapons Tests, Field Command, AFSWP, who had indicated that classified instrumentation and test methods in the Frenchman Flat area might thus be disclosed, and who had recommended that the proposal be submitted to Headquarters, AFSWP. Information received from the AEC in Washington indicated that in all probability the proposal would be shelved until a later date.

3-13-4. Personnel Clearance and Control Branch.

The major responsibilities of the Personnel Clearance and Control Branch continued substantially unchanged. These responsibilities included the processing of security clearances for AFSWP personnel; the supervision of adequate visitor control procedures for Headquarters, AFSWP, and subordinate installations; and the staff supervision of counter intelligence activities of Headquarters, AFSWP, and Field Command, AFSWP.

During the first half of the year 1953 the question of whether the Personnel Division or the Security Division should issue Top Secret military clearances to eligible individuals, was considered. It was decided that the Personnel Division should issue such clearances. (Ref. 245.)

The Personnel Clearance and Control Branch worked out an arrangement by which the Services would process "Q" clearances in Radiological Defense Engineering, Nuclear Engineering (Effects), and Structural Dynamics courses. These clearances had previously been processed by Headquarters, AFSWP. (Ref. 246.)

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Clearance and visit procedures for Project UPSHOT-KNOTHOLE worked more efficiently, generally speaking, than procedures followed for any previous tests. A limited number of operational difficulties did arise, however, one example of which was the arrival at Mercury, Nevada, of supporting DOD personnel who did not have "Q" clearance. A study was instituted to determine ways of improving the program for security clearance, visit procedures, and other aspects of security, in order that the occurrence of such difficulties might be eliminated in future tests. Both Field Command and the AEC were being consulted in this matter.

A standing operating procedure for granting access to critical category atomic weapons stockpile and production information was formulated. A copy was furnished Field Command in order that a similar directive might be issued by that headquarters. A standard procedure applicable to all three Services for access to critical category information was approved by the Department of Defense. (See par. 3-13-2g; 3-13-3d(1).) The Personnel Clearance and Control Branch converted the list of personnel in Headquarters, AFSWP, who were authorized Alpha Access to the new category numbers. The list of Field Command Personnel authorized critical category access, which had heretofore been classified Top Secret, was reviewed and was downgraded to Confidential. In addition to the conversion of Alpha 50 to Critical Category Numbers, a code system using the critical category numbers was initiated for use in requests to the Director of Military Application, AEC, for access to AEC and AEC Contractor information for personnel authorized critical category access to atomic weapons information.

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A study in regard to the disposition of investigative records of individuals transferred from the Armed Forces Special Weapons Project was begun during the first half of 1953. During the second half of the year it was completed, and a policy was established whereby the investigative reports on personnel transferred from the AFSWP would be forwarded to the appropriate Service agency, i.e., for Army and civilian personnel, to G-2, Army; for Naval personnel, to the Office of Naval Intelligence; and for Air Force personnel, to the Office of Air Intelligence. FBI reports loaned to the AFSWP by the AEC would be returned to the AEC, upon transfer of the individuals concerned.

The Kansas City personnel clearance card file, which had been maintained in the Personnel Clearance and Control Branch through the year 1952, was forwarded to the Kansas City office, inasmuch as the file would be of more use there. Kansas City personnel continued to be cleared by Headquarters, AFSWP.

In accordance with AFSWP Directive 17-22, dated 12 November 1953, the Personnel Clearance and Control Branch requested that each Division in Headquarters, AFSWP, furnish a list of all employees of civilian agencies to whom it currently furnished or expected to furnish classified information.

A new and more complete personnel clearance card file for all personnel of Headquarters, AFSWP, was set up during the latter half of the year 1953. Another reference personnel card file which was being set up included names of and clearance data on personnel from other agencies who currently made frequent visits to the headquarters of the AFSWP. In

addition, the latter file would include names of individuals making one-time visits, but whose clearance would be necessitated for that one visit.

During September 1953, Headquarters, AFSWP, submitted numerous requests to the AEC for continuing clearances for frequent visitors to AEC facilities, not only for AFSWP personnel, but for personnel of the Army, the Navy, and the Air Force. A study was conducted to determine the reason for the three Services sending such requests through the AFSWP, rather than directly to the Atomic Energy Commission. It was decided that valid reasons for the AFSWP's processing such clearances no longer existed. The Services were informed of this decision, and all agreed to submit future requests directly to the AEC, in conformance with DOD Directive 200.02-2, dated 25 March 1952.

Another study made concerned the feasibility of Headquarters, AFSWP, using the same clearance categories for official visitors as were used by the Santa Fe Operations Office of the AEC, rather than following the current procedure of integrating the categories list of SFOO into the AFSWP list, and vice versa, when applicable. A revised list was published by the Santa Fe Operations Office, and was adopted for use by the AFSWP.

The question as to whether the Federal Bureau of Investigation should continue to conduct background investigations for security clearances of AFSWP personnel, or whether the Civil Service Commission should conduct such investigations, was still pending in the year 1953. (See Vol. V, par. 3-12-5.) The Personnel Clearance and Control Branch received from the Atomic Energy Commission a document on "Categories of Functions". It was requested that this document be used as a guide in determining

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whether background investigations for positions in Headquarters, AFSWP, should be made by the FBI or by the Civil Service Commission when future requests for security clearances were submitted to the AEC. After a study of positions within Headquarters, AFSWP, it was determined that all positions in Headquarters, AFSWP, with the exception of those of civilian guards, were of such nature as to require background investigations by the FBI. The Atomic Energy Commission was so informed in a letter dated 29 September 1953. (Ref. 247.) Close liaison with the FBI was continued. An increasing amount of information of possible interest to the FBI or the AFSWP was exchanged, and mutual assistance was provided in the processing of borderline clearance cases.

FBI reports of investigation were used by Headquarters, AFSWP, as a basis for granting military clearances. A review of some FBI reports, however, indicated that they did not meet the requirements for military clearance. An agreement was made with G-2, Department of the Army, for that agency to complete such investigations.

During the first half of the year 1953, the Personnel Clearance and Control Branch processed 353 sets of Personnel Security Questionnaires for complete background investigation by the Federal Bureau of Investigation. During the same period, 306 visit notifications were processed by the branch. During the second half of the year the branch processed 68 requests to the AEC for "Q" clearance, 16 requests to Headquarters, AFSWP, for "Q" clearance, 100 requests for military clearances for civilian personnel, and 37 requests for military clearance for military personnel reporting for duty. Written requests for

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visit clearances totaled 403 during the second half year, and 200 visits were cleared by teletypewriter conference during the same period.

3-43-5. Internal Security and Defense Branch.

Throughout the year 1953 the Internal Security and Defense Branch continued to discharge its responsibilities for the internal security of the AFSWP headquarters area. These responsibilities involved:

a. Security briefing of all newly assigned personnel.

b. Security de-briefing of all departing personnel.

c. Publication of rosters assigning security check duty to officer personnel.

d. Publication and revision of administrative directives concerning physical security procedures for personnel of Headquarters, AFSWP. This included general revision of the security briefing outline furnished to division chiefs for the annual security briefing of personnel (in August of each year), as required by Headquarters, AFSWP, regulations.

e. Changing of combinations on storage containers of classified material in accordance with current security directives.

f. Issuance and control of identification badges to personnel of Headquarters, AFSWP.

g. Supervision of reception desk.

h. Destruction of classified waste.

i. Supervision of after-hours security checks performed by the Counter Intelligence Corps and by Security Division personnel.

j. Initiation of administrative action in cases involving security violations.

k. Arranging for security clearance verification, and providing physical security for AFSWP-sponsored conferences requiring access control of visitors.

l. Supervision of headquarters personnel during practice air raid alerts; assignment of room wardens and assistant wardens.

The number of security violations detected in the headquarters during the period 1 January through 30 June 1953 showed a substantial decrease from previous periods. Improper storage of classified information continued to be the major cause of violations. For the period 1 July through 31 December 1953 there was a 50 percent decrease in security violations, as compared with the number of violations in the preceding six months.

Throughout the year, the branch provided security clearance data, physical security, and access control for numerous conferences. Notable among these conferences were the Fuzing Conference on 11 March 1953, with 65 persons in attendance, the UPSHOT-KNOTHOLE briefing of 31 July 1953, with an attendance of 240 persons, and the symposium on Nuclear Radiation on 9 December 1953, attended by 88 persons.

Special problems of various types were presented to the branch during the year. Among them were the following, which were referred to the AFSWP by the Interdepartmental Committee on Internal Security: "Security Clearances for U. S. National Aircrewmen Who Make International Flights", "Status of U. S. Programs for National Security", "Disposition, in the Event of War, of Enemy Vessels and Persons in the Territorial

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Jurisdiction of the U. S. ...", "Protection of Security of United States Patents", "Dissemination of Unclassified Government Information", and "Detection and Disposal of Atomic Weapons Introduced into the United States by Clandestine Methods". Many conferences were held with Colonel Halverson and other ICIS* officers concerning the last-named problem. It was their desire that, as a representative of the Department of Defense, an AFSWP member should head an ad hoc committee which would prepare a study on this subject. The position of the AFSWP was that, while it would assist in an advisory capacity, it was not considered within the mission of Headquarters, AFSWP, to participate as a member.

The feasibility of replacing military police guard units, stationed at storage sites, with combat-type units was referred to the AFSWP by the Assistant Chief of Staff, G-1, Department of the Army. Extensive study of the problem was conducted by Headquarters, AFSWP, while its practical applicability was studied by Field Command, AFSWP. Based upon the results of these studies, Headquarters, AFSWP, informed G-1 that the proposal was not feasible. (Ref. 148.)

The Internal Security and Defense Branch continued to give advice and assistance to the Services in resolving their individual security problems. Officers of the branch attended numerous conferences with officers of the Office of the Chief of Engineers, Department of the Army, preparatory to the establishment of an atomic weapons demolition course at Fort Belvoir, Virginia. Based upon its experience in assistance with security arrangements in the establishment of a similar installation by the Department of the Navy, the branch offered recommendations concerning

* Interdepartmental Committee on Internal Security.

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fences, lighting, guards, badge and pass system, and classification of equipment. The branch also assisted a representative of the Office of the Provost Marshal General in obtaining facts and figures on which to base a study concerning the proposed organization of Military Police Units to provide security for Very Heavy Artillery Units.

As the approved report by the Working Group of the Joint Storage Board which established authority for construction of satellite sites adjacent to AFSWP National Stockpile Sites was implemented, the Internal Security and Defense Branch devoted considerable time to the review and consideration of security features at such sites. The above-mentioned report was translated into design criteria by the Kansas City Area Engineer, and ~~this~~ these criteria ~~was~~ were closely studied. Recommendations were made in regard to guard house location, perimeter alarm fence, and location of badge control buildings in relation to access gates.

Each national stockpile site had previously been inspected in a joint Santa Fe Operations Office, AEC, - Field Command, AFSWP, security survey, semiannually; by the Inspector General, Field Command, semiannually; and in a joint Division of Military Application, AEC - Headquarters, AFSWP, security survey, semiannually. In addition, unscheduled visits or inspections were made at each site at least once each year by members or staff representatives of the Joint Congressional Committee on Atomic Energy. A review of security survey reports for the fiscal year 1953 indicated that site security forces had attained and were maintaining an exceptionally satisfactory standard of security. In consideration of this fact, a proposal was made to the AEC that the semiannual joint

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inspections be replaced by annual inspections. The AEC concurred in reducing the DMA and Division of Security, AEC, - Headquarters, AFSWP, security surveys to an annual basis, but stated that the joint SFOO, AEC, - Field Command, AFSWP, security surveys must continue to be scheduled semi-annually. Headquarters, AFSWP, then informed Headquarters, Field Command, of the change in plans, and suggested that the semiannual inspections by the Inspector General, Field Command, be scheduled to coincide with the joint SFOO, AEC, - Field Command, AFSWP, surveys in order to reduce the number of separate inspections. This suggestion was adopted. The foregoing changes would not affect inspections to be conducted at the new sites, King and Love, which were to be inspected semi-annually by each of the three survey organizations until their security standards were comparable to those of Sites Able, Baker, Charlie, and Dog.

Culminating more than five months' study on the matter of perimeter fences as security measures, the Internal Security and Defense Branch prepared for the Chief, AFSWP, a letter to the Director, Division of Military Application, AEC, explaining in detail the AFSWP position in favor of retention of lethal electric perimeter fences and ADT alarms in the construction of future storage sites. The DMA, on 14 April 1953, had recommended that these security features be eliminated. (Ref. 249.)

During the second half of the year 1953 a great deal of research was done to determine the capabilities of the U. S. S. R. and the Communist Party in the United States to inflict damage, by overt or covert action, upon the war potential of the United States, with particular attention to the vulnerability of AFSWP sites to sabotage and ground

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attack. Intelligence reports and estimates by G-2, Department of the Army, the Office of Naval Intelligence, the Federal Bureau of Investigation, the Interdepartmental Intelligence Conference, the National Security Council, and the Interdepartmental Committee on Internal Security were studied, and were applied to current local projects and problems. For example, a briefing based largely on such information was presented by Major Davis to the Working Group of the Joint Board on Future Storage, while the Chairman of that group, Brigadier General Tarrant, USA, depended largely upon the Internal Security and Defense Branch for intelligence information upon which to base future storage criteria.

The branch continued to perform liaison duties between Headquarters, AFSWP, and the Department of Defense representative on the Interdepartmental Committee on Internal Security (ICIS). ICIS reports were reviewed and evaluated to determine their value to the AFSWP.

Monthly Intelligence and Security Reports from Sandia Base and the sites were reviewed, and staff action was taken to insure correction of any deficiencies reported, as well as to summarize the reports for the information of the Chief, Security Division, and the Chief of Staff, AFSWP.

Close coordination was maintained with the Plans Division, particularly during the second half of the year, 1953, for the purpose of insuring cooperation in adjusting guard manpower figures in the face of reduction in such personnel by the Air Force, and to assist in planning for the guard manning of [redacted] by United States Marines.

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The Internal Security and Defense Branch rewrote and distributed AFSWP Fire Regulations on 8 October 1953. The branch designated and trained personnel to fill fire-fighting jobs vacated by persons leaving Headquarters, AFSWP.

3-13-6. Organization and Key Personnel.

During the year 1953 a number of changes took place in the key personnel of the Security Division. On 26 February, Major Fred B. Rhodes, Jr., USA, the Executive Officer of the Security Division, returned to civilian status to become Chief Counsel for the preparedness investigating subcommittee of the Senate Armed Services Committee. On 29 June, Lieutenant Colonel Harry R. Smith, USA, entered upon duty as the new Executive Officer of the Division. Lt. Colonel Smith was formerly Chief of the Security Section, Intelligence Division, Headquarters, United States Army, Europe, in which capacity he served for approximately three and one-half years.

On 22 February 1953, Captain Josephine L. Redenius, USA, left Headquarters, AFSWP, for Fort Lee, Virginia. Captain Redenius was replaced as Assistant Chief of the Classification, Special Problems, and Public Information Branch by Captain Marie L. Malone, USA, who had been transferred to Headquarters, AFSWP, from the Special Intelligence Branch, G-2, General Headquarters, Far East Command, on 18 December 1952.

Captain Theodore J. Newnam, USAF, formerly of the 1808th Airways and Air Communications Service Wing, Tokyo, Japan, arrived on 9 March 1953 to assume duty as Chief of the Personnel Clearance and Control Branch, vice Major Edward M. Rogers, USAF, who transferred to Andrews Air Force Base on 25 March 1953.

On 1 May 1953, Captain Elizabeth M. Turnbull, USA, was transferred to Fort Monmouth, New Jersey, and was replaced as Assistant Chief, Personnel Clearance and Control Branch, by First Lieutenant J. F. Colvin, USA.

Lieutenant James O. Larson, USN, who had previously served a tour of duty in the Division (see Vol. IV, par. 3-12-7; Vol. V, par. 3-12-4), returned to Headquarters, AFSWP, on 28 October 1953 as replacement for Lieutenant Commander Samuel T. Robinson, USN, head of the Classification, Special Problems, and Public Information Branch. LCDR Robinson returned to civilian reserve status on 2 November 1953.

Mr. Tyrus W. Setliff was detached from the Division and from Headquarters, AFSWP, on 26 July 1953.

As of the end of the year 1953, the organization of the Security Division, with key personnel, was as follows:

Chief of the Division

Colonel David M. Perkins, USA

Executive Officer

Lt. Colonel Harry R. Smith, USA

Classification, Special Problems, and Public Information Branch

Lieutenant James O. Larson, USN

Captain Marie L. Malone, USA

Personnel Clearance and Control Branch

Captain Theodore J. Newnam, USAF

Lieutenant J. F. Colvin, USA

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Internal Security and Defense Branch

Major Martin L. Davis, USA

Lieutenant Thomas E. Griffin, USA

Chief Clerk

Mrs. Gloria A. Lurie

3-13-7. Functions of the Division.

As of the close of the year 1953 the functions of the Security Division were:

a. Duties of the Chief of the Division.

(1) To report to and advise the Deputy Chief of Staff, Administration, on the security program of the command.

(2) To supervise the security program of the Armed Forces Special Weapons Project, in order to provide maximum protection for classified information, special weapons equipment, and material and installations of the command.

(3) To coordinate with each of the Services in the preparation of plans for defense of AFSWP installations. To supervise the internal security program.

(4) To monitor the AFSWP clearance and visitor control program, counterintelligence activities, and public information matters.

(5) To establish policies with regard to classification of information.

b. Classification, Special Problems, and Public Information Branch.

(1) To maintain liaison with the Atomic Energy Commission; the Secretary, Joint Intelligence Committee; the Assistant Chief

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of Staff, G-2, Department of the Army; the Director of Intelligence, U. S. Air Force; and the Office of Naval Intelligence on all matters pertaining to security classification.

(2) To establish security classification policies for Headquarters, AFSWP, and to take action to insure that such policies were properly implemented.

(3) To be responsible for public information activities for Headquarters, AFSWP, and to provide staff advice and coordination on all public matters and special problems.

c. Personnel Clearance and Control Branch.

(1) To be responsible for all matters concerning personnel clearance and visitor control at AFSWP headquarters.

(2) To be responsible for staff coordination and supervision of all matters pertaining to personnel clearance, visitor control, and access control at AFSWP installations.

(3) To monitor all security violations occurring within the AFSWP, and to process all counterintelligence information affecting the AFSWP.

d. Internal Security and Defense Branch.

(1) To be responsible for the internal security of Headquarters, AFSWP, and for staff coordination and supervision of all matters pertaining to internal security and defense of AFSWP installations.

(2) To be responsible for the safeguarding of military information as required by pertinent service directives, and for dissemination of intelligence information affecting the Armed Forces

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Special Weapons Project.

(Ref. 197.)

This section of the History of the Armed Forces Special Weapons Project is based upon Security Division Confidential Memorandum SWPSC-2/314.7, dated 3 August 1953, "History of AFSWP", with attached historical notes concerning activities of the Security Division, 1 January through 30 June 1953; Security Division Secret Memorandum SWPSC-2/314.7, dated 1 February 1954, "History of AFSWP", with attached historical notes concerning activities of the Security Division, 1 July through 31 December 1953.

(Ref. 250.)

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FIRST HISTORY OF AFSWP 1947 - 1954

VOLUME 6 - 1953, CHAPTER 3 - HEADQUARTERS

SECTION 14 OF 14 SECTIONS

THIS SECTION DECLASSIFIED WITH
DELETIONS BY DNA, CHIEF, ISTS

Robert D. Thompson

DATE: 10/3/94

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HISTORY OF AFSWP

VOLUME VI - 1953

CHAPTER 3. HEADQUARTERS

SECTION 14. PERSONNEL DIVISION

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VOLUME VI - CHAPTER 3

SECTION 14. PERSONNEL DIVISION

3-14-1. General.

The Personnel Division, Headquarters, AFSWP, continued, during the year 1953, its mission of procurement and placement of qualified personnel for Headquarters, AFSWP, and subordinate activities, with attendant administrative duties. The Division was composed, besides the Chief and Executive Officer, of four branches - Army Personnel Branch, Naval Personnel Branch, Air Force Personnel Branch, and Civilian Personnel Branch. A Judge Advocate for Headquarters, AFSWP, was appointed by the Judge Advocate General, United States Army.

3-14-2. Army Personnel Branch.

The Army Personnel Branch was concerned with the following activities and policies:

a. Activation or Addition of Units.

The following Army units were added to those under the jurisdiction of the Armed Forces Special Weapons Project by activation or assignment:

(1) The 18th Military Police Criminal Investigation Detachment and the 125th Military Police Provost Marshal Detachment were assigned to Sandia Base from Joint Task Force 132, by letter, Headquarters, Task Group 132.2, Joint Task Force 132, APO 187, c/o PM, San Francisco, California, dated 30 December 1952, subject, "Movement Order, 18th MP CID Det, 125th MP PM Det", and General Order 3, Headquarters, Field Command,

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AFSWP, Sandia Base, Albuquerque, New Mexico, dated 8 January 1953.

(2) The 12th Ordnance Battalion (Special Weapons Depot), less Company B, was activated at Sandia Base on 10 April 1953 by General Order 17, Headquarters, Field Command, AFSWP, Sandia Base, Albuquerque, New Mexico, dated 8 April 1953.

(3) The 10th Ordnance Battalion (Special Weapons Support), less Company B, was activated at Sandia Base on 15 August 1953 by General Order 39, Headquarters, Field Command, AFSWP, Sandia Base, Albuquerque, New Mexico, dated 14 August 1953.

(4) The 14th Ordnance Battalion (Special Weapons Depot), less Company B, was activated at Sandia Base on 17 November 1953 by General Order 58, Headquarters, Field Command, AFSWP, Sandia Base, Albuquerque, New Mexico, dated 17 November 1953.

b. Inactivation or Reassignment of Units.

The following Army units were inactivated or were relieved from assignment to the Armed Forces Special Weapons Project:

(1) Special Weapons Detachment, 8453d AAU, Oak Ridge, Tennessee, was discontinued as of 16 February 1953 by General Order 4, Headquarters, AFSWP, Washington, D. C., dated 2 February 1953.

(2) Special Weapons Unit, 8463d AAU, and Headquarters Technical Training Detachment, 8470th AAU, Sandia Base, were discontinued as of 1 June 1953 by General Order 23, Headquarters, Field Command, AFSWP, Sandia Base, Albuquerque, New Mexico, dated 21 May 1953.

(3) The 9th Ordnance Battalion (Special Weapons Support), less Company B, was relieved from assignment to the Armed Forces Special

Weapons Project, and was assigned to 4th Army, with station at Fort Bliss, Texas, per letter, subject, "Movement Orders, 9th Ordnance Battalion (Special Weapons Support)", Headquarters, Field Command, AFSWP, dated 13 August 1953. The unit departed 5 October 1953 on permanent change of station.

(4) The 505th Heavy Artillery Ordnance Support Detachment was relieved from assignment to Armed Forces Special Weapons Project, and was assigned to 3rd Army, with station at Fort Bragg, North Carolina, per Department of the Army Message 948743, dated 22 September 1953. The unit departed on permanent change of station, 20 October 1953.

(5) The 12th Ordnance Battalion (Special Weapons Depot), less Company B, was relieved from assignment to the Armed Forces Special Weapons Project, and was assigned to the Chief of Ordnance, Department of the Army, with station at White Sands Proving Grounds, Las Cruces, New Mexico, per letter, subject, "Movement Orders, 12th Ordnance Battalion (Special Weapons Depot)", Headquarters, Field Command, AFSWP, dated 4 November 1953. The unit departed on permanent change of station, 1 December 1953.

c. Redesignation and Reorganization of Units.

The 1st Very Heavy Artillery Support Group and the 2nd Very Heavy Artillery Support Group were redesignated the 9th Ordnance Battalion (Special Weapons Support) and the 15th Ordnance Battalion (Special Weapons Support), respectively. Each battalion included a Headquarters and Headquarters Detachment and a Company A. The companies B,

security companies, were activated at Fort Sill, Oklahoma, and at Fort Bliss, Texas, respectively. Authority for this action was letter AGAO-1(M) 322 Gen Res (10 Feb 53) G-1, Department of the Army, 4 March 1953, subject, "Change in Status of Certain Units", and General Order 15, Headquarters, Field Command, AFSWP, Sandia Base, Albuquerque, New Mexico, dated 26 March 1953.

d. Atomic Energy Specialization Program, Officers.

On 19 January 1953, the Department of the Army announced a program of atomic energy specialization within the framework of Career Management. The purpose of this program was to produce qualified and experienced commissioned officers for the more professional and technical phases of activities pertaining to military application of atomic energy. The program was prescribed by Army SR 605-150-20.

e. Information and Education Activities.

The Department of the Army announced, in a letter of 11 June 1953, that Army commanders would not be responsible for the Army portion of the Armed Forces Information and Education activities at AFSWP installations, and that such responsibilities would rest with the Chief, AFSWP.

f. Stabilized Assignments within AFSWP.

The publication of the new Army Regulation 600-145, dated 17 July 1953, which prescribed the stabilized assignment policy of the Department of the Army for both officers and enlisted personnel, necessitated a review and revision of AFSWP stabilized positions. In the case of officer personnel, both Headquarters and Field Command, AFSWP, reviewed

requirements for 4-year positions, and forwarded their recommendations to the Adjutant General for approval. Career Management Division's Policy Letter No. 73, dated 5 October 1953, established within the AFSWP, 255 officer billets as 4-year positions. All other positions would be ~~for~~ of two years duration. In the case of enlisted personnel, Field Command submitted a list of key specialists and critical MOSs for Field Command positions which were designated as 3-year billets. This list was approved in its entirety, since only technical positions and key enlisted billets were involved. Headquarters, AFSWP, designated 15 billets as key enlisted positions. All other enlisted tours at Field Command and at Headquarters, AFSWP, were ~~for~~ of two years duration.

g. Reduction in Officer and Enlisted Strength.

As a result of budgetary limitations, action was taken to reduce the strength of the Army. Department of the Army Message No. 438420, dated 24 July 1953, which was superseded by Department of the Army Circular 61, dated 28 July 1953, permitted non-regular Army officers and warrant officers to apply for early release from active duty. Under the provisions of this directive, 21 AFSWP officers were released from active duty. Department of the Army Circular 68, dated 10 August 1953, prescribed a more lenient program for acceptance of resignations of officers (including regular Army officers) and warrant officers serving on active duty, based on personal hardship, health, safety, or interest. Three AFSWP officers were released under this authority.

In September 1953, the Department of the Army announced an involuntary release program, involving the separation of approximately

2,500 officers, to be implemented during the month of October. Under this program only one officer assigned to Field Command, AFSWP, was released; none was released from Headquarters, AFSWP.

A second involuntary release program, involving approximately 2000 officers, was announced by the Department of the Army, the latter part of October 1953. In this program, Field Command, AFSWP, lost four officers, while Headquarters, AFSWP, lost none.

Department of the Army Message No. 477139, dated 24 December 1953, announced that personnel ceiling limitations required further reduction in the strength of the Army, and that, to this end, non-regular Army commissioned officers currently serving on an initial obligated 24 months tour of active duty, which would expire during the period 1 February through 31 August 1954, would be released upon completion of 21 months of active commissioned service under certain conditions. These conditions were: (1) that application for a new category had been declined by the officer concerned, (2) that the officer had requested a new category and had had his request disapproved, or (3) that the officer did not currently or subsequently apply for a new Category III. It was anticipated that the AFSWP would lose approximately 20 officers under this program.

Department of the Army Circular 94, dated 6 October 1953, provided for the early separation of enlisted personnel who had not more than three months remaining in their required period of service and who desired to enter or return to school by a specified date, or to accept employment of a cyclic nature. Approximately 20 enlisted men in

the AFSWP were released under the provisions of this circular.

Department of the Army Message No. 477064, dated 24 December 1953, announced a policy of involuntary separation, with certain exceptions, of those regular army enlisted personnel who had enlisted for three or more years prior to 30 July 1953, and whose AFQT percentile score was 14 or lower. This separation would be effected in approximately equal monthly increments during the period 1 February 1954 through 30 April 1954. In view of the careful screening given AFSWP enlisted personnel, it was not contemplated that any sizable number of enlisted men would be released under this program.

h. Procurement of Technical Personnel.

During the second half of the year 1953, a requirement existed constantly for technical personnel, both officer and enlisted. The activation of a new Special Weapons Depot Battalion and a Special Weapons Support Battalion (see par. 3-14-2a) during the period was hindered by the non-availability of qualified technical personnel. This fact resulted in the slippage of unit training schedules in the cases of both units, with a corresponding postponement of unit readiness dates. An ineffective assignment policy on the part of the Chief of Ordnance and of the Chief Signal Officer resulted in continual personnel problems within the newly activated organizations. Requisitions for personnel were processed only after formal notifications of activation were received, resulting in shortages of personnel at the time of activation and for some time following. A meeting of representatives of G-1, G-3, Signal Corps, and AFSWP was scheduled for early in January 1954, for the purpose

of conferring on the means of alleviating this problem and of expediting the activation and staffing of the ordnance support units.

Technical enlisted personnel were furnished through the technical personnel "pipeline" established in January 1953. This means, which was intended to furnish 40 enlisted men per month, left much to be desired in the type and number of personnel received. Approximately 20 enlisted men per month were received from this source. These men were, for the most part, draftees in the grade of private, and failed to form the corps of technical non-commissioned officers required in the newly activated units. To reduce the shortage, Field Command, AFSWP, furnished trained personnel to form the cadres of the new units. The Department of the Army directed Ordnance Corps and Signal Corps to furnish approximately 10 enlisted men to Field Command for technical training when personnel at Field Command were no longer available. The 40-man technical pipeline from training divisions was terminated as of 30 September 1953, when it was replaced by the Ordnance and Signal Corps plan for furnishing required personnel. These technical enlisted personnel were to receive preliminary training at Fort Monmouth and at Aberdeen Proving Ground. This plan would not provide a 40-man per month flow until the latter part of February 1954, since courses of instruction at Fort Monmouth and at Aberdeen Proving Ground were of 18 weeks duration, and the first increment of trainees started training in November 1953.

The shortage of technical enlisted personnel was somewhat further alleviated by the Department of the Army volunteer program which was initiated during September 1953. This program permitted technically

qualified regular Army enlisted personnel to apply for Special Weapons technical training and for subsequent assignment to special weapons support units. As of 31 December 1953, this program had provided approximately 100 enlisted men of the regular army, 10 percent of whom were in the first three grades. The influx of regular army enlisted personnel into the special weapons battalions would tend to stabilize the battalions, which had had to contend with the loss of 2-year draftees approximately nine months after assignment to the units.

In conjunction with the volunteer program, the Department of the Army published a letter which authorized qualified high school graduates to apply for similar technical training. Such personnel would be given eight weeks of basic training, followed by necessary preparatory technical training, prior to entrance into AFSWP technical training. In this connection, the Department of the Army planned to include four Special Weapons courses: ABM (Mechanical), ABE (Electrical), AFA (Assembly), and NT (Nuclear), in the next revision of the Army School Catalog. It was hoped that publicizing the availability of these courses would encourage interested individuals to enlist for AFSWP technical courses.

i. Promotion of Technical Enlisted Personnel.

In order to encourage more enlisted men to participate in the technical training being offered at Field Command, AFSWP, it was recommended to G-1, Department of the Army, that a promotion system be adopted, providing for the advancement in grade of enlisted men who had completed certain technical courses and who were considered proficient

in their selected fields. This recommendation was under study by G-1, which was considering it along with an Army Field Force promotion policy affecting technical personnel in other fields, including that of guided missiles. It was believed that favorable action would be given this proposal sometime early in 1954.

j. Provision for Officer Replacement.

Field Command, AFSWP, experienced difficulty in securing an overlap period for replacement of officers which was sufficient for security clearance, technical training, and on-the-job training of the replacement prior to the departure of the incumbent. During 1953, Headquarters, AFSWP, began to requisition for replacement officers on the basis of anticipated losses. Authority was granted the AFSWP by G-1, to submit requisitions on a 5 months basis in order to ensure officers being "Q" cleared prior to arrival at Field Command, thus permitting their immediate entry into technical courses, and eliminating time lost while awaiting clearance.

k. Action on Requests for Overseas Assignments.

As a result of the numerous applications for overseas transfer submitted by enlisted personnel under AFSWP jurisdiction, authority for final approval or disapproval of such requests was granted the Chief, AFSWP, by G-1, Department of the Army. This action was related to the AFSWP rotation policy, which, until November 1953, was impeded by the inability of the Office of the Adjutant General, Army, to fill AFSWP requisitions for enlisted men. Enlisted men who had completed normal AFSWP tours were retained beyond the normal two or three-year tour periods

because of the nonavailability of replacements. With the influx of replacements late in the year, Field Command was able to implement a replacement policy whereby enlisted men with the longer AFSWP service records were replaced as qualified replacements became available. As of the end of the year, the backlog of applications for transfer had been cleared, and a definite rotation policy was being followed.

1. Military Police Procurement.

Action taken during the first half of the year 1953 to secure enlisted men qualified to man the military police companies at Sandia Base and at Killeen Base proved inadequate. This failure was the result of the fact that many guard personnel were eligible for release during the months of August and September 1953, while at the same time the Department of the Army was unable to provide replacements. Authority was granted the Commanding General, Field Command, to screen the Military Police School trainees for 50 enlisted men during August and September 1953, and for 30 enlisted men from October 1953 through April 1954. By the close of the year 1953 the shortage of guard personnel had been alleviated, permitting a relaxation in the restricted rotation policy previously in effect.

m. Delegation of Authority to Commanding General, Field Command.

The Commanding General, Field Command, was delegated authority to take final action on applications submitted by enlisted men under Field Command jurisdiction, in the following cases:

(1) Hardship or dependency discharge of enlisted

personnel under provisions of Section III, AR 615-362.

(2) Discharge of enlisted personnel three months in advance of the expiration of term of service, to enter school, under authority contained in Department of the Army Message 477894, dated 30 December 1953.

(3) Resignations submitted under the following paragraphs of AR 615-367:

(a) Paragraph 3 - Unconditional resignations.

(b) Paragraph 4 - Resignation in lieu of board action.

(c) Paragraph 5 - Resignation in lieu of reduction for misconduct or inefficiency.

(d) Paragraph 6 - Resignation for good of the Service.

(e) Paragraph 7 - Resignation in lieu of separation for disloyalty or subversion.*

(f) Paragraph 8 - Resignation in lieu of separation for homosexuality.*

* These cases, or cases in which disapproval was recommended by Headquarters, Field Command, were to be forwarded to TAG, Army, through Headquarters, AFSWP, for final action.

3-14-3. Naval Personnel Branch.

a. Personnel Allowance, Headquarters, AFSWP.

During the entire year 1953, the Naval Personnel Allowance for Headquarters, Armed Forces Special Weapons Project, remained 27 officers and 10 enlisted personnel, and the Marine Corps Allowance remained one officer and one enlisted person. (See Vol. V, par. 3-13-3a.)

b. Personnel Allowance, Field Command, AFSWP.

(1) Sandia Base.

On 4 March 1953, the Chief of Naval Personnel issued a new allowance of 194 officers and 256 enlisted men for the AFSWP at Sandia Base. These totals were broken down into 134 officers and 128 enlisted personnel for Sandia Base and 60 officers and 128 enlisted men for the Lake Mead Base group which was being formed at Sandia Base. On 27 March 1953, the officer allowance was increased by one, to provide a billet at Livermore, California. On 22 April 1953, the allowance was increased by 5 officers and 24 enlisted personnel, to provide training billets for personnel to be assigned to the Naval Ammunition Depot, Oahu. On 4 May 1953, the allowance was decreased by 11 officers and 13 enlisted personnel in accordance with the results of the tri-service manpower survey. On 26 May, the allowance was increased by 54 enlisted personnel, to provide training billets for personnel to be assigned to the Navy Special Weapons Units. As of 30 June 1953, the allowance of Naval personnel for Sandia Base was as follows:

[redacted]

	Officers	Enlisted
AFSWP, Sandia Base	124	115
Lake Mead Base	60	128
NAD, Oahu	5	24
NSWU Training Billets	0	54
Total	189	321

As of the same date the allowance of 6 Marine officers for Sandia Base remained unchanged.

On 23 July 1953, the Chief of Naval Personnel issued a new allowance of 191 officers and 342 enlisted men for the AFSWP at Sandia Base, and an increase of two officers and 21 enlisted men to provide training billets for personnel to be assigned to the Naval Ammunition Depot, Oahu. This allowance was further increased by 52 officers and 182 enlisted personnel on 24 August 1953, to provide training billets for Special Weapons Unit personnel and site personnel, with billets to be transferred to units and sites upon completion of training. On 21 October 1953, the above allowance was decreased by eight officers and 16 enlisted personnel, as a result of a cut-back in site requirements. As of 31 December 1953 the allowance of Naval personnel for Sandia Base was as follows:

	Officers	Enlisted
AFSWP, Sandia Base	120	115
Lake Mead Base	60	128
NAD, Oahu	7	45
NSWU Training Billets	48	220
Total	235	508

[redacted]

[redacted]

The allowance of 6 Marine officers for Sandia Base remained unchanged. At the end of the year 1953 a change was anticipated in this allowance, however, since Marine Corps personnel formerly in the NSWUs had been transferred to field command on disestablishment of the Naval Special Weapons Units.

(2) Naval Special Weapons Units.

It was the desire of the Chief of Naval Operations that a Special Weapons Unit be established on each coast of the United States, with operational control under ComAirLant and ComAirPac. In pursuance of this policy, on 15 June 1953, NSWU 471 was disestablished, as such, and was established as SWULANT (Special Weapons Unit Atlantic Fleet). The Marine Corps personnel of NSWU 471 were to become Marine Corps Tactical Support Assembly Team (MARTSAT) No. 1, stationed at Sandia Base. NSWU 802 was disestablished on 15 July 1953, and NSWU 1233, on 15 September 1953. The Special Weapons Unit, Pacific Fleet (SWUPAC) was established on 15 July 1953, and absorbed personnel from both NSWU 802 and NSWU 1233.

(3) [redacted]

The Naval Personnel Allowance for [redacted] was decreased by one officer on 4 March 1953, and was increased by 11 enlisted men on 27 April 1953. New totals amounted to 87 officers and 353 enlisted personnel. The Marine Corps Allowance [redacted] remained at 12 officers and 422 enlisted personnel.

The Bureau of Naval Personnel; the Office of the Chief of Naval Operations (OP-36); Headquarters, AFSWP; Field Command,

[redacted]

RESTRICTED [redacted]

AFSWP; and [redacted] foresaw a problem which would arise in 1955 at [redacted] because of the large number of personnel who would complete normal tours of duty within a relatively short period of time. It was considered impossible to train so many technical personnel for replacements at Sandia Base within the period of time indicated, and training at [redacted] would be complicated because of the great number of personnel involved. In order to have an orderly and smooth turnover, it was necessary that a plan be prepared which would spread the loss of trained personnel over a longer period of time. [redacted] prepared such a plan, and forwarded it to the Chief of Naval Personnel for necessary action. LT G. W. Absher, Jr., USN, of [redacted] came to Washington and discussed the plan with interested offices. The plan was accepted, but there was some concern over the excess personnel who would be at the Base from time to time. The Chief of Naval Personnel, therefore, in a letter to the Chief of Naval Operations, requested concurrence in permitting excess personnel to be carried during the turnover period. The same situation was anticipated at [redacted] since a large number of personnel would report there within a short period of time. Therefore, valuable experience would be gained from the personnel turnover plan and its practice at [redacted]

(4) Naval Mine Depot, [redacted]

The personnel allowance for [redacted] U. S. Naval Mine Depot, [redacted] remained at 47 officers and 182 enlisted personnel. This allowance was for the manning of [redacted]

[redacted]

(5) AFSWP Plans Group.

The Naval Personnel Allowance for the AFSWP Plans Group remained at five officers and no enlisted personnel. (See Vol. V, par. 3-13-3b(5); Vol. VI, par. 3-11-1.)

3-14-4. Air Force Personnel Branch.

The Air Force Personnel Branch was concerned, during the year 1953, with the following activities and problems:

a. Activation of Units.

(1) General Order No. 107, Headquarters Command, USAF, dated 14 November 1952, activated the 3rd Tactical Support Squadron and the 14th Aviation Field Depot Squadron at Sandia Base, effective 8 January 1953. Final command assignment and location of the 3rd Tactical Support Squadron was not specified. The 14th AFDS, when manned and trained, was to be reassigned to Eielson Air Force Base, Alaska, during January 1954.

(2) General Order No. 114, Headquarters Command, USAF, dated 12 December 1952, activated the 505th Aviation Squadron, effective 8 February 1953. General Order No. 11, Headquarters Command, USAF, dated 13 February 1953, reorganized this unit, effective 8 March 1953. The unit, when manned and trained, would be reassigned to the Strategic Air Command, and would be redesignated the 44th Aviation Squadron, with its location at Lake Charles Air Force Base, Louisiana.

(3) General Order No. 6, Headquarters Command, USAF, dated 21 January 1953, activated the 1091st USAF Special Reporting Squadron, effective 1 April 1953. This unit was to be trained and utilized in manning [redacted] Westover Air Force Base, Massachusetts. General Order No. 25, Headquarters Command, USAF, dated 16 April 1953 revoked the activation of

[redacted]

[redacted]

this unit. The 1091st USAF Special Reporting Squadron was to be activated and trained at a later date.

(4) General Order No. 17, Headquarters Command, USAF, dated 3 March 1953, activated the 4th Tactical Support Squadron, effective 20 April 1953. Final command assignment and location of this unit was not definite.

(5) General Order No. 29, Headquarters Command, USAF, dated 8 May 1953, activated and organized the 1090th USAF Special Reporting Squadron (Student), effective 20 May 1953. This same General Order discontinued the 1083rd USAF Special Reporting Squadron (Training), also effective 20 May 1953. Personnel from the 1083rd USAF SRS were to be used to man the new student squadron.

(6) General Order No. 18, Headquarters Command, USAF, dated 19 March 1953, activated the 19th Aviation Field Depot Squadron, effective 8 June 1953. This unit was to be manned and trained at Sandia Base. It was expected that upon completion of training the 19th AFDS would be reassigned [redacted] probably in January 1954.

(7) General Order No. 36, Headquarters Command, USAF, dated 2 June 1953, activated the 550th Aviation Squadron at Sandia Base, effective 18 August 1953. The ~~505~~ 550th, when manned and trained, was to be reassigned to Smoky Hill Air Force Base, Kansas, and would become the 310th Aviation Squadron, under SAC, in February 1954.

(8) General Order No. 46, Headquarters Command, USAF, dated 19 June 1953, activated the 5th Tactical Support Squadron and the

[redacted]

[redacted]

20th Aviation Field Depot Squadron at Sandia Base, effective 18 September 1953. Both of these units were cancelled from activation per General Order No. 52, Headquarters Command, USAF, 17 July 1953.

(9) General Order No. 46, Headquarters Command, USAF, dated 19 June 1953, (see above (8)) activated the 502nd Aviation Squadron at Sandia Base, effective 18 September 1953. The 502nd, when manned and trained, was to be reassigned to Sedalia Air Force Base, Missouri, and would become the 340th Aviation Squadron, under SAC, in April 1954.

(10) General Order No. 55, Headquarters Command, USAF, dated 28 July 1953, activated the 504th Aviation Squadron at Sandia Base effective 18 November 1953. This unit, when manned and trained, was to be reassigned to Dow Air Force Base, Maine, and would become the 506th Aviation Squadron, under SAC, in June 1954.

b. Inactivation of Units.

(1) General Order No. 83, Headquarters Command, USAF, dated 15 October 1953, inactivated the 19th Aviation Field Depot Squadron at Sandia Base, effective 18 November 1953. (See par. 3-14-4a(6).) Personnel becoming excess as the result of the inactivation of this unit were to be utilized to man the 1091st USAF Special Reporting Squadron and new Tactical Depot Squadrons being activated by the Air Force. (See par. 3-14-4a(3).)

(2) General Order No. 94, Headquarters Command, USAF, dated 27 November 1953, inactivated the 14th Aviation Field Depot Squadron at Sandia Base, effective 8 December 1953. (See par. 3-14-4a(1).) Personnel thus becoming excess were to be utilized to man the 1091st USAF

[redacted]

[redacted]

Special Reporting Squadron and new Tactical Depot Squadrons being activated by the Air Force. (See par. 3-14-4a(3).)

c. Reassignment and Redesignation of Units.

(1) The 2nd Tactical Support Squadron was reassigned to the Tactical Air Command, and was moved to Langley Air Force Base, Virginia, per Movement Order, Headquarters, Field Command, AFSWP, dated 9 January 1953, effective 1 February 1953.

(2) The 551st Aviation Squadron was reassigned to the Strategic Air Command, and was moved from Sandia Base to Turner AFB, Georgia, by Movement Order, Headquarters, Field Command, AFSWP, dated 4 March 1953, effective 18 March 1953. The unit was to be redesignated the 31st Aviation Squadron.

(3) General Order No. 26, Headquarters Command, USAF, dated 20 April 1953, reassigned the 10th Aviation Field Depot Squadron to the Air Materiel Command, effective 20 April 1953. The unit was moved from Sandia Base to Fairchild AFB, Spokane, Washington, per Movement Order, Headquarters, Field Command, AFSWP, dated 30 January 1953. This was an interim assignment for the 10th AFDS, the final location of which was expected to be [redacted]

(4) General Order No. 28, Headquarters Command, USAF, dated 1 May 1953, as amended by General Order No. 29, Headquarters Command, USAF, dated 8 May 1953, reassigned the 580th Aviation Squadron to the Strategic Air Command, effective 4 May 1953. The unit was moved from Sandia Base to Biggs AFB, Texas, by Movement Order, Headquarters, Field Command, AFSWP, dated 17 April 1953. The unit was to be redesignated the 97th Aviation Squadron.

[redacted]

[redacted]

(5) General Order No. 33, Headquarters Command, USAF, dated 28 May 1953, reassigned the 11th Aviation Field Depot Squadron to the Air Material Command, effective 13 May 1953. The unit was moved from Sandia Base to Limestone AFB, Maine, by Movement Order, Headquarters, Field Command, AFSWP, dated 9 April 1953. This was an interim assignment for the 11th AFDS, the final location of which was expected to be [redacted]

(6) The 510th Aviation Squadron was moved from Sandia Base to March Air Force Base, California, and was reassigned to the Strategic Air Command, effective 18 June 1953 by Movement Order, Headquarters, Field Command, AFSWP, dated 28 May 1953. The unit was to be redesignated the 22nd Aviation Squadron.

d. Authority Delegated to Headquarters, AFSWP.

Headquarters Command, USAF, delegated authority to Headquarters, AFSWP, in the following cases:

(1) Authority to place assigned airmen on flying status as non-crew members, under the provisions of AFR 39-47.

(2) Authority to promote eligible Second Lieutenants, AFSWP, to the grade of First Lieutenant, under the provisions of AFR 36-56.

(3) Authority to take final action on those hardship discharge requests of airmen which had been submitted under the provisions of AFR 39-13, and which had been disapproved at subordinate headquarters, AFSWP.

(4) Authority to effect Air Force Reserve promotions, under the provisions of AFR 36-68. This authority was obtained from

[redacted]

Headquarters, USAF, to lighten the administrative workload of that headquarters. Orders effecting such promotions were published by the 1090th USAF Special Reporting Wing.

e. Assignment of Air Police.

In order to establish a regular flow of Air Police into Field Command resources, Headquarters, AFSWP, requested that three Air Police NCOs and 20 apprentice Air Police be assigned as follows: the 3 NCOs and 13 apprentice Air Police to Sandia Base, and seven apprentice Air Police to Bossier Base, on a standing monthly basis. Headquarters, USAF, did not grant the request because of the limited number of personnel entering the Air Police Course and because of the fact that the course was being suspended during the months of October, November, and December 1953. Unfavorable consideration of the request was also based upon the fact that the Air Force was releasing several thousand airmen in the Air Police career field, the exact number not to be determined until after 31 December 1953.

f. Technically Trained Airmen.

Headquarters, AFSWP, was notified by Field Command, AFSWP, that that command was becoming increasingly short of necessary supervisory personnel in the technical fields. Headquarters, AFSWP, requested of Headquarters, USAF, that 10 percent of those entering the Electronics Fundamentals Course at Keesler Air Force Base be of the NCO grades. Such action would permit the assignment of sufficient numbers of technically trained supervisory personnel to Field Command, to replace those being discharged, rotated, or assigned to SAC, TAC, or AMC. As of the close of the year 1953 official notification had not been received from Headquarters, USAF,

but informal information indicated that the request submitted would be granted.

g. Assignment Criteria for Airmen in AFSWP.

During the latter half of the year 1953 it became apparent that it would be necessary to reiterate, to commands furnishing airmen for assignment to the Armed Forces Special Weapons Project, the assignment criteria established by Headquarters, USAF. Large numbers of airmen were being reported by Field Command for reassignment because of their being substandard or having a background that would preclude their being granted "Q" clearance. Headquarters, USAF, reminded all major commands which furnished airmen to the Armed Forces Special Weapons Project of the necessity of assigning to the AFSWP, airmen who met the criteria. Headquarters, USAF, further brought to the attention of such commands the unnecessary expenditure of funds involved in subsequent reassignment of personnel who failed to measure up to the established criteria.

h. Reduction in Officer and Airmen Strength.

As a result of budgetary limitations imposed upon the Air Force, the following actions were taken to effect reductions in personnel strength:

(1) Officer Strength.

Department of the Air Force Message AFPMP-4 ALMAJCOM 520/53, dated 25 May 1953, initiated a program for the release of non-volunteer reserve force officers. On 30 July 1953, Headquarters, USAF, issued Message ALMAJCOM 708/53, which rescinded the message of 25

May 1953, and set up a new criterion for voluntary release of reserve force officers. The new plan permitted the release of non-regular officers who did not desire to continue serving on a voluntary indefinite basis, and who requested release from active duty. On or before 31 August 1953, forty-five officers of the Armed Forces Special Weapons Project were released from active duty under the provisions of one or the other of the above Air Force directives. Headquarters, USAF, Message AFPMP-4 ALMAJCOM 591/53, dated 18 June 1953, provided for the involuntary release of Air Force reserve officers whose loss would be the least damaging to the Air Force. A special evaluation board was convened at Headquarters, USAF, to screen the records of all Air Force reserve officers and temporary warrant officers on active duty, for the purpose of selecting those "marginal performers" to be released from active duty under the provisions of the message of 18 June 1953. Forty-seven officers and warrant officers of the AFSWP were selected for involuntary release. Major commanders were offered the opportunity of instituting reclama action before actual release of such officers was accomplished. The AFSWP submitted reclama requests for four officers. These requests were reviewed and approved by Headquarters, USAF.

(2) Airmen Strength.

Headquarters, USAF, Message AFPMP-4 ALZICOM 139/53, dated 10 August 1953, permitted the release before 15 September 1953, of airmen whose normal expiration of term of service would be on or before 30 July 1955, provided they asked for early separation and did not qualify for a limited resource specialty. This message also provided release of

those airmen whose normal expiration of term of service would be on or before 30 June 1955 and who had completed three years service on current enlistment, had volunteered for release and who were surplus to command requirements. Under provisions of this directive, 79 airmen were released from the AFSWP.

Headquarters, USAF, Message AFPMP-4 ALMAJCOM 820/53, dated 14 September 1953, announced a new release policy for those airmen whose enlistments would expire during Fiscal Year 1955, who desired separation, who did not qualify for certain critical specialties, and who were surplus to command requirements. Under this directive, 17 airmen were released from the AFSWP.

(3) Results of Strength Reduction.

Although no effect upon the mission of the Armed Forces Special Weapons Project was apparent as the result of the release of the officers and men indicated above, an effect was shown in the increased requirements for replacements in the Tactical Air Command, the Strategic Air Command, and Air Materiel Command, for technically trained personnel who were lost from those commands through separation actions authorized by the release directives.

3-14-5. Military Strength, Armed Forces Special Weapons Project.

a. Military Strength, Headquarters, AFSWP.

The military strength of Headquarters, AFSWP, as of 31 December 1953, compared with that of 31 December 1952, was as follows:

[redacted] SECRET

31 December 1952

	Authorized Off. & WO	Authorized EM	Assigned Off. & WO	Assigned EM
Army	50	16	54[1]	26[2]
Navy	28	11	25	13
Air Force	33	13	34[3]	14
	111	40	113	53

31 December 1953

	Authorized Off. & WO	Authorized EM	Assigned Off. & WO	Assigned EM
Army	48	20	44[5]	34[6]
Navy	33[4]	11	31	13
Air Force	36	17	35[7]	16
	117	48	110	63

1/ Includes 6 with duty station elsewhere.

2/ Includes 4 with duty station elsewhere.

3/ Includes 2 with duty station elsewhere.

4/ Includes 5 billets for AFSWP Planning Group.

5/ Includes 2 with duty station elsewhere.

6/ Includes 3 with duty station elsewhere.

7/ Includes 1 with duty station elsewhere.

b. Total Military Strength, AFSWP.

The total military strength of the Armed Forces Special Weapons Project, including Headquarters, AFSWP; Headquarters, Field Command; and the sites; as of 31 December 1953, compared with that of 31 December 1952, was as follows:

[redacted]

[redacted]

31 December 1952

	Authorized		Assigned	
	Off. & WO	EM	Off. & WO	EM
Army	542	2353	595	2413
Navy	551	1611	574	1455
Air Force	728	3556	839	3473
	1821	7520	2008	7341

31 December 1953

	Authorized		Assigned	
	Off. & WO	EM	Off. & WO	EM
Army	524	2295	531	2877
Navy	385	1330	394	1314
Air Force	849	2533	735	2979
	1758	6158	1660	7170

The combined total strength of the military personnel assigned to the Armed Forces Special Weapons Project, as of 31 December 1953, showed a decrease of 5.55 percent, compared with the total military strength as of 31 December 1952. For further statistical computations on comparative strengths, see paragraph 3-1-1.

3-14-6. Civilian Personnel Branch.

a. Civilian Personnel Strength Statistics.

The number of civilian spaces authorized for Headquarters, AFSWP, was decreased from 116 to 112, effective 31 May 1953.

Figures showing the numbers of civilian personnel authorized for and assigned to the Armed Forces Special Weapons Project as of 31 December 1953, compared with the figures as of 31 December 1952, are as follows:

[redacted]

[redacted]

31 December 1952

	Authorized	Assigned
Headquarters	116	107[1/]
Field Command	1829	1750
	1945	1857

31 December 1953

	Authorized	Assigned
Headquarters	112[2/]	107[3/]
Field Command	1666	1619
	1778	1726

1/ Includes 12 civilians assigned at Kansas City.

2/ Includes 14 civilian spaces at Kansas City.

3/ Includes 11 civilian spaces at Kansas City.

b. Efficiency Awards Committee.

Special Order No. 11, dated 2 June 1953, rescinded Special Order No. 11, dated 31 January 1952 (see Vol. V, par. 3-13-6b), and announced appointment of the following members to the Efficiency Awards Committee:

Lt. Col. Henry H. Rankin, USA

Mr. Gavin Hadden

Mr. John Rosado

During the year 1953 one "Outstanding" performance rating was awarded in Headquarters, AFSWP, - to Dr. Herbert Scoville, Jr., Technical Director, AFSWP.

c. Grievance Committee.

No complaints were filed with the Grievance Committee,

[redacted]

[redacted]

Headquarters, AFSWP, by civilian personnel during the year 1953.

d. Fair Employment Program.

During the year 1953, no complaints were filed with the Deputy Fair Employment Officer for Headquarters, AFSP, (Mr. John Rosado). (See Vol. V, par. 3-13-6c.)

e. Field Trips.

The Chief, Civilian Personnel Branch, visited Headquarters, Field Command, on 24, 25, and 26 March 1953 for the purpose of reviewing the civilian personnel program there. His report to the Chief of Staff, AFSWP, on 1 April 1953, indicated that the program was apparently being administered in a very satisfactory manner despite unavoidable difficulties, caused principally by a heavy turnover rate in the Civilian Personnel Division, Field Command. Two other trips were made to Headquarters, Field Command, by the head of the Civilian Personnel Branch, for the same purpose, during the periods 22-24 September and 7-18 December. Reports on these trips, filed 28 September 1953 and 23 December 1953, respectively, again indicated satisfactory administration of the civilian personnel program at that Headquarters.

The Office of the Kansas City Area Engineer was visited by the Chief of the Civilian Personnel Branch, Headquarters, AFSWP, during the period 28-30 April 1953. The report submitted by the Chief of the Branch to the Chief of Staff, AFSWP, on 14 May 1953, stated that considerable improvement had been achieved in the management of civilian personnel affairs in that office since his visit of 22-24 April 1952. (See Vol. V, par. 3-13-6e.) This improvement was, according to the report, attributable

[redacted] [redacted]

[redacted]

chiefly to two factors: (1) a clearer and more logical delineation of duties and responsibilities among organizational segments and individual workers, and (2) strong administrative direction and leadership by the Area Engineer, his Executive Officer, and the Chief, Administrative Division.

3-14-7. Judge Advocate.

Colonel Riley McClain, USA, was succeeded in the year 1953 by Colonel William Myers, USA, as the representative for the AFSWP in the Office of the Judge Advocate General. Colonel Myers was available for consultation and advice.

3-14-8. Organization and Key Personnel.

Colonel John C. Healey, USAF, who had been Chief of the Personnel Division since 2 July 1948 (see Vol. I, par. 4-10-10a), was reassigned, as of 27 February 1953, to Headquarters, Fourth Air Force, Hamilton Air Force Base, California.

Major Harold W. Barrett, USAF, assumed duties as Acting Chief of the Personnel Division upon the reassignment of Colonel Healey. Major Barrett continued in this capacity until relieved by Colonel Raymond G. Boyd, USAF, who was assigned to Headquarters, AFSWP, as of 10 July 1953 and assumed duty as Chief, Personnel Division, on 3 August 1953. As of the latter date, Major Barrett became Executive Officer of the Division.

As of 31 December 1953, the organization of the Personnel Division, with the key personnel, was as follows:

Chief of the Division

Colonel Raymond G. Boyd, USAF

[redacted]

[redacted]

Executive Officer

Major Harold W. Barrett, USAF

Army Personnel Branch

Major Thomas W. Keitt, USA

CWO William R. Murray, USA

Naval Personnel Branch

LT Gordon W. Williams, USN

YNC Ray R. Eaton, USN

Air Force Personnel Branch

WOJG Robert E. Hoff, USAF

Civilian Personnel Branch

Mr. John A. Rosado

Miss Sissel Olson

3-14-9. Functions of the Division.

As of the end of the year 1953, the functions of the Personnel Division were:

a. Duties of the Chief of the Division.

(1) To report to and advise the Deputy Chief of Staff, Administration, on the personnel program for the command.

(2) To direct the personnel program for the command by formulating military and civilian personnel policies, and by monitoring personnel assignments.

(3) To coordinate with appropriate Army, Navy, and Air Force staff divisions to establish assignment priorities, selection criteria, and tours of duty.

(4) To interpret orders and regulations on personnel

[redacted]

[redacted]

policies; to conduct field inspections and personnel surveys.

(5) To supervise, for the command, personnel actions, maintenance of personnel records, and all programs pertaining to personnel services, personnel affairs, and ground safety.

(6) To handle legal and chaplain matters affecting the Armed Forces Special Weapons Project.

b. Army Personnel Branch.

(1) To procure qualified Army personnel in sufficient numbers to meet AFSWP requirements, and to supervise assignments in order to insure the most efficient utilization of personnel.

(2) To maintain necessary liaison with appropriate Department of the Army staff officers to insure that effective personnel actions were taken on matters of interest to and connected with the AFSWP mission.

(3) To prepare plans and submit appropriate recommendations pertaining to personnel actions and reports.

(4) To maintain records, process personnel actions, and submit administrative reports on Army personnel assigned to Headquarters, AFSWP.

(5) To coordinate with other staff officers of Headquarters, AFSWP, on matters pertaining to establishment, reorganization, disestablishment, and movement of Army units assigned to the AFSWP.

(6) To supervise the ground safety, chaplains, personnel services, and personal affairs programs for Army personnel assigned to the command.

c. Navy Personnel Branch.

(1) To insure the assignment of Navy personnel in suf-

[redacted]

[redacted]

(4) To maintain records, process personnel actions, and submit administrative reports on Air Force personnel assigned to Headquarters, AFSWP.

(5) To coordinate with other staff offices of Headquarters, AFSWP, on matters pertaining to establishment and movement of Air Force units assigned to the AFSWP.

(6) To supervise the ground safety, chaplains, personnel services, and personal affairs programs for Air Force personnel assigned to the command.

e. Civilian Personnel Branch.

(1) To plan, direct, and coordinate the civilian personnel program of the command; to maintain working relationships with operating officials and field offices; to conduct field surveys and inspections of civilian personnel activities.

(2) To prepare budget estimates for personnel services required by Headquarters, AFSWP, and to review similar estimates prepared in the field.

(3) To represent the command in contacts with outside agencies, in matters pertaining to civilian personnel.

(4) To recruit employees for Headquarters, AFSWP, and to assist supervisors in their selection and placement; to control civilian employment in such a way as not to exceed authorized ceilings.

(5) To aid in the establishment of standards of performance for civilian positions in Headquarters, AFSWP; to assist supervisors in the application of performance appraisals to promotions, separations, and other personnel actions.

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(6) To counsel employees of Headquarters, AFSWP, and to assist in maintaining good employee relations.

(7) To process Headquarters civilian personnel actions and reports; to review civilian personnel reports prepared in the field; to maintain files and records.

(8) To analyze civilian positions in Headquarters, AFSWP, prepare job descriptions, and assign positions to appropriate grades.

(9) To determine appropriate per diem rates to be paid for travel of civilian personnel of Headquarters, AFSWP, and to review travel orders issued to civilians in the field. (Ref. 197.)

This section of the History of the Armed Forces Special Weapons Project is based upon Secret Memorandum from the Chief, Personnel Division, dated 6 August 1953, with attached historical notes of the Personnel Division for the period 1 January 1953 - 30 June 1953, and an unclassified memorandum from the Executive Officer, Personnel Division, dated 22 January 1954, with attached historical notes of the Personnel Division for the period 1 July 1953 - 31 December 1953. (Ref. 15/.)

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